DOCUMENT RESUME

ED 077 069 EA 004 785

AUTHOR	Worth, Walter H.; And Others
TITLE	A Choice of Futures.
INSTITUTION	Alberta Commission on Educational Planning, Edmonton.
PUB DATE	[72]
NOTE	337p.
AVAILABLE FROM	Hurtig Publishers, 225 Birks Building, Edmonton, Alberta (Canada) ($6.00, plus mailing)
EDRS PRICE	MF-$0.65 HC-$13.16
DESCRIPTORS	*Continuous Learning; Economic Factors; Educational Coordination; Educational Finance; Educational Needs; Educational Objectives; *Educational Planning; *Educational Resources; *Futures (of Society); Governance; *Learning Processes; Organization; Prediction; Professional Personnel; Social Problems; Social Structure; Technological Advancement; Trend Analysis
IDENTIFIERS	Alberta; Canada; Experiential Learning

ABSTRACT

The Commission was commended to investigate social, economic, and technological trends in Alberta for the next 20 years; to examine the needs of all individuals in the Province; to analyze total educational requirements; and to recommend future changes, structures, and priorities necessary for a comprehensive educational system. Between 1969 and 1972, with the help of expert consultants, the Commission sponsored or co-sponsored research studies, held public hearings involving people across the Province, received briefs, convened large conferences, and launched major task force investigations which were made public in 1971. From these resources, the Commission analyzed what people wanted. This analysis resulted in a number of educational ideals, principles, and goals shared by the great majority of citizens, which are presented here. The report also suggests structures, processes, plans, resource management, and priorities designed to help make the good forecasts be true, the bad forecasts be untrue, and the unchangeable forecasts at least tolerable. (Illustrations and photographs may photograph poorly.) (Author)

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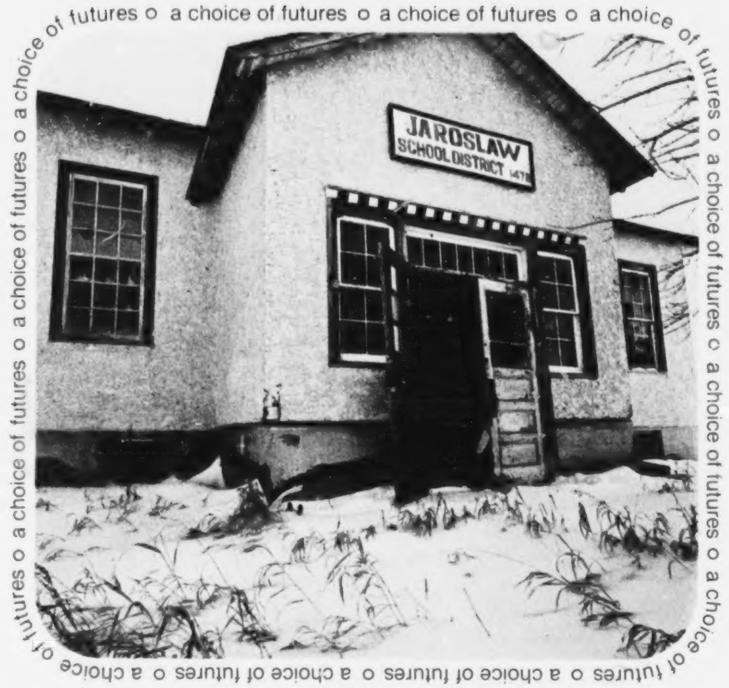
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SCHOOL DISTRICT 1478

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report of the
Commission on Educational Planning

report of the
Commission on Educational Planning

Your response to this report is vital.
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Before October 15, 1972.

[1972]

a future
of choices

a choice
of futures

INTRODUCTION

This report represents a choice of futures in the same way that a television schedule represents a choice of features; that is, the final choice belongs to the reader. The programs offered reflect the opinions, the scholarship and the imagination of thousands of Albertans and a host of international craftsmen, all working behind the scenes. But these programs will achieve their purpose only if tens of thousands of Albertans tune them in.

The Commission's mandate amounts to a call upon people and their concerns–now, and in the future. In this instance, many were called and many were chosen. Priorities were assessed; directions were plotted; strategies were planned. Sometimes, between two doubtful proposals, neither was chosen. At other times, between two promising solutions, both were chosen. That is why there are some choices that await your agreement, while others await your judgment. Many of these choices cannot wait for long.

Freedom to choose is often accompanied by controversy. The airing of differences is a necessary first step toward a more cohesive view of what we desire as a people. And it is this growing community of vision that must guide our future endeavors in education.

Although singling out any person or group for special mention is as hazardous as it is difficult, it is important that the role of the members of the Commission Board be recognized. Since the Commission's inception they have been involved in defining operational policies and procedures, coordinating activities, analyzing information and proposals, and advising on the development of this report. The collective wisdom and perceptions of Al Anderson, Lorne Downey, Leonard Haney, Bernie Keeler, Henry Kolesar, Michael O'Byrne and Sam Smith, have been of very great value. It must be made clear, however, that while they endorse most of what is in the report, each may take exception to certain aspects of it. Indeed, the differences in their perspectives was a major source of strength for the Commission.

From the outset, the Commission has been viewed as an instrument for mobilizing the time, talents and energies of Albertans in designing a system of schooling that will be a bridge to tomorrow. Thus, the goal of this report is to extend the dialogue initiated and maintained over the past two years –to build a basis for understanding and action that equates the future and education. The Commission believes that the future of education is both vital and negotiable. This document has been produced with those two words in mind.

The report is intended to be an invitation, not a command; a catalyst, not a conclusion; the first stage of a development plan, not a finished blueprint. The issues are too important and the stakes are too high for it to be otherwise.

Albertans must now choose. We are not merely parts of the future; taken together we are its cause. What tomorrow holds depends on all of us–on what we foresee, on what we believe, and on what we do. And five or 10 or 20 years from today we will have only ourselves to praise or blame.

Walter H Worth

Commissioner
Walter H. Worth

Tomorrow's educational services cannot be dealt with in conventional terms. Hence this report, like many of the activities leading up to it, is different.

The usual documentation in the form of footnotes and quotations is missing. Instead, the vast array of complex, and sometimes disparate, information available to the Commission has been boiled down and simplified in an effort to illuminate the issues and opportunities that lie ahead. Communication was deemed to be more important than scholarly respectability. Those concerned about the latter may consult the selected references in Appendix C.

Similarly absent is the lengthy listing of recommendations characteristic of traditional royal commission reports. Again readability was a consideration. More important, however, was the complex interlocking of problems that would not yield to discrete or simplistic solutions. This is not to say that the report does not make proposals for change. It does. And it makes many. But they are made in context, and should be examined and interpreted the same way—not lifted out for inspection in isolation.

The proposals for change advanced in this report represent a synthesis of information gleaned from the various public involvement, research and correlative projects outlined in Appendix A. In the process of synthesis many ideas and much data were considered by a number of individuals and groups. The sources of information were so numerous, and in many instances so overlapping, that their origins are legion. The Commission humbly acknowledges its indebtedness to all those persons who participated in the preparation of the documents listed in Appendix B and Appendix C for their many ideas—perhaps even for some of their words.

con
tents

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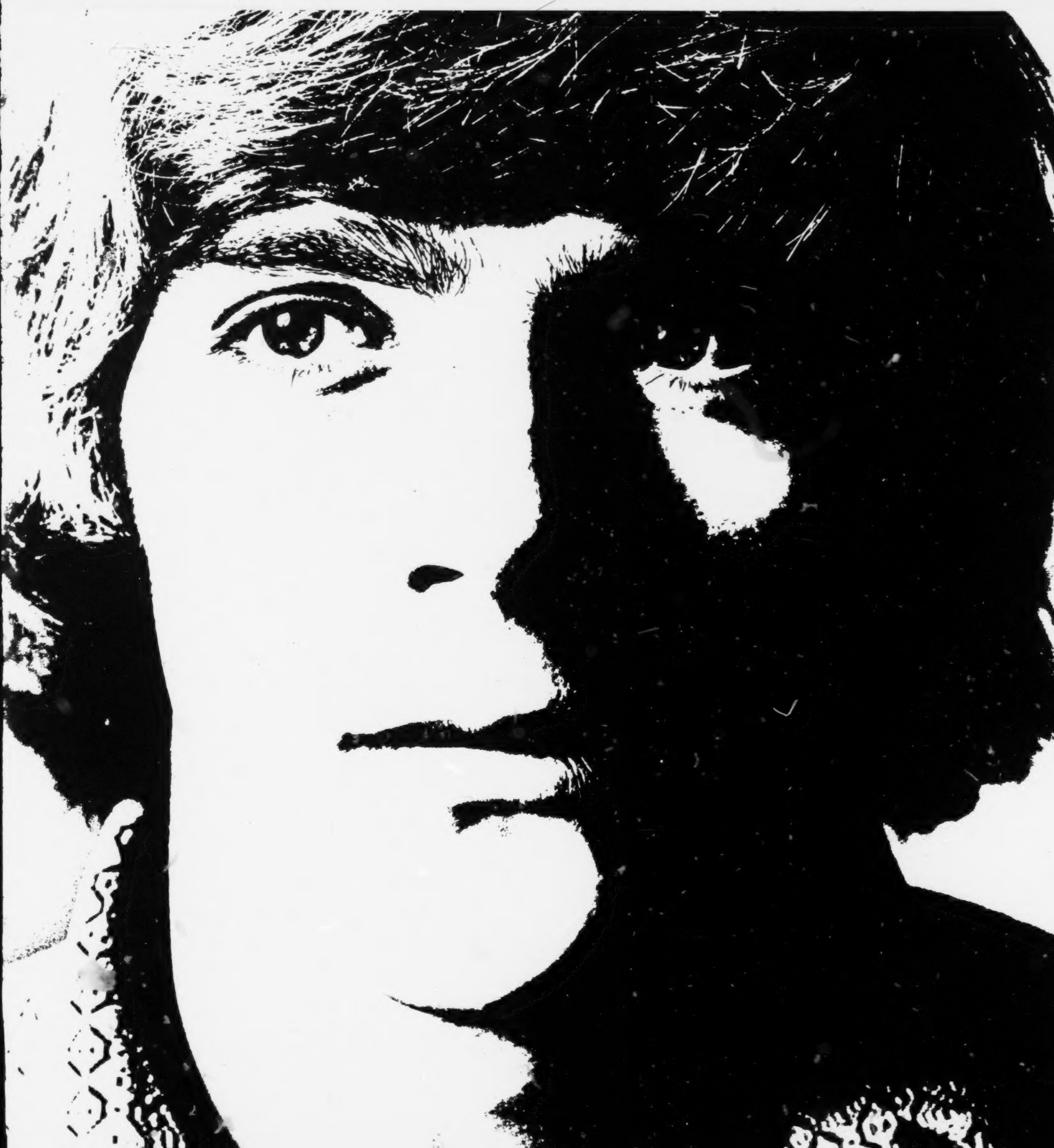
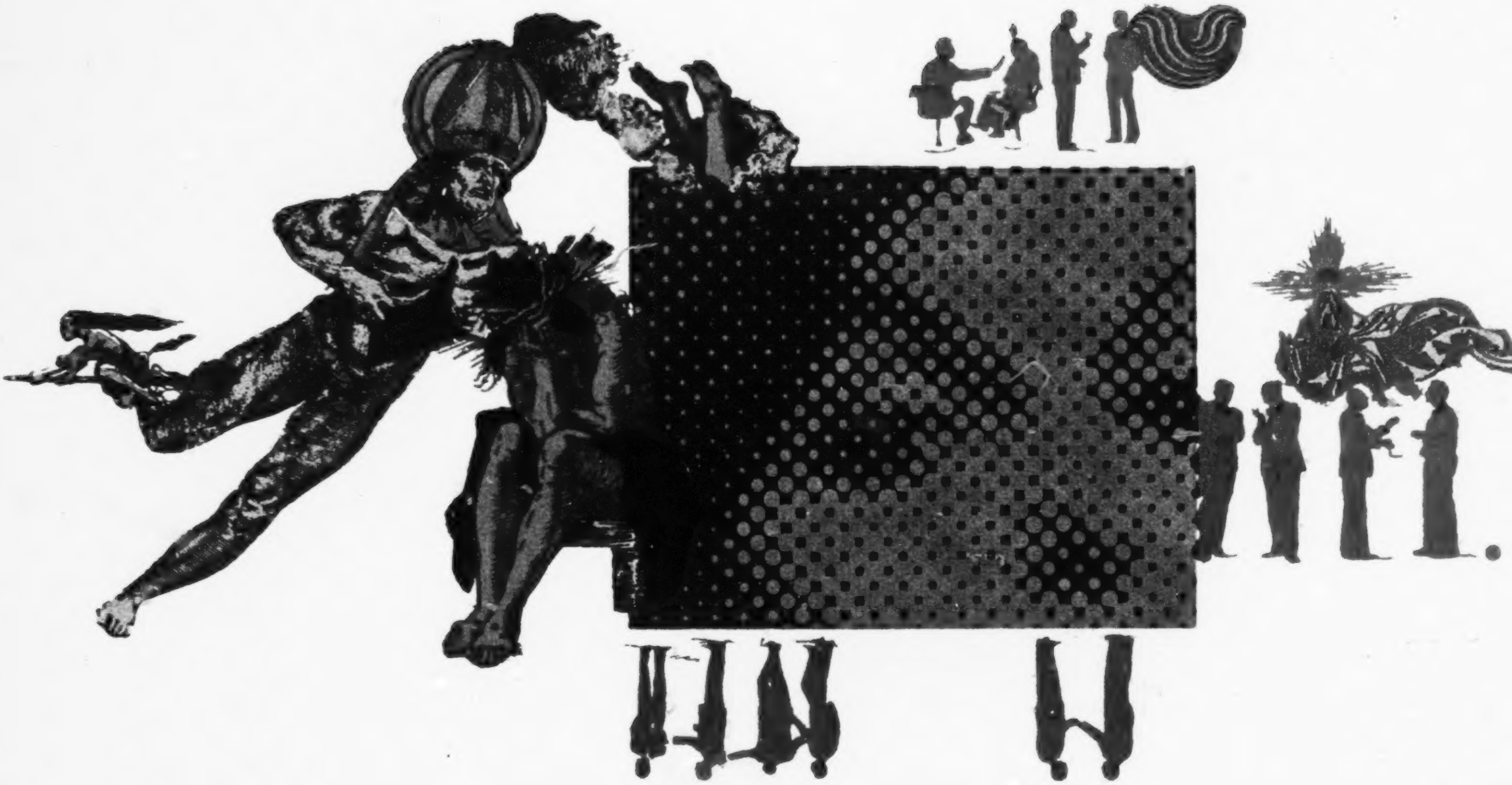
1972

Published by L. S. Wall
Queen's Printer for the Province of Alberta
11510 Kingsway Avenue, Edmonton T5G 2Y5





Our future holds two certainties: one, that it is ahead of us; the other, that it will arrive.

All other matters assigned to our tomorrow can be considered only according to their degrees of probability. This is why effective planning in education, as in every field of human endeavor, inevitably must involve making bets on the future. The more information we have, the better the odds. The better the odds, the greater the chances of our developing a system of education that will help us win the race for survival.

The futures-research undertaken by the Commission, and selected investigations by others, are very briefly summarized in this section. These studies yield forecasts about the nature and timing of future events primarily based on extrapolations from current trends. Such forecasts describe what could or might happen in Alberta during the last third of the 20th century. They do not tell us definitely what will happen or what ought to happen.

While not blueprints of tomorrow, the forecasts do offer a glimpse of foreseeable conditions for education. They provide vantage points for assessing where we should be headed. They suggest some leverage points for influencing the direction and pace of change.

It must be stressed that the forecasts to follow deal with probabilities and possibilities. Careful judgment must be used when interpreting them. For example, the word *will* should be read as though it were preceded by *probably or likely*. All dates applied to future events should be treated as educated guesses. Furthermore, like life itself, the forecasts contain some elements of contradiction.

Despite their shortcomings, futures-forecasts are essential sources of data. They provide a picture of tomorrow that may be considered as relevant as the realities of today. One difference, however, lies in our ability to alter the course of each. Today's reality is passing. Tomorrow's reality remains to be influenced.

Knowledge indicating where present trends may lead is both a prerequisite to, and a stimulus for, the definition of alternative futures. The definition and assessment of alternative futures is a responsibility that belongs to each of us. Futures-forecasts can help us fulfill that responsibility. By highlighting what our future might be like, they provide an advance opportunity to agree or disagree with tomorrow. It is not necessary that one must like a futures-forecast; it is only necessary to realize that it could become a future reality. And, like it or dislike it, we must act upon it according to our beliefs and within the scope of reason. Moreover, we must work to alter trends where future consequences appear to be undesirable.

TOMORROW: FUTURES-FORECASTS

social forecasts

Our social life will be quite different in the decades ahead. Basic institutions, interpersonal and intergroup relations and patterns of social control will undergo substantial modification in response to changing aspirations and pressing social problems. Some of the basic trends expected to affect Albertans in the latter third of this century are the following:

- **declining influence of marriage and the family, religious institutions and the work-ethic;**
- **continuing relaxation of the norms governing personal behavior;**
- **growing emphasis upon generosity, sincerity and service in human relationships;**
- **mounting tension between major groups in society;**
- **rising mental illness, crime, drug abuse and alcoholism;**
- **expanding concern for individuality and the well-being of society;**
- **increasing potential for social unrest;**
- **decreasing emphasis on values pertaining to law and order, patriotism and cultural identity;**
- **growing need for governmental regulation in interpersonal and inter-group relations.**

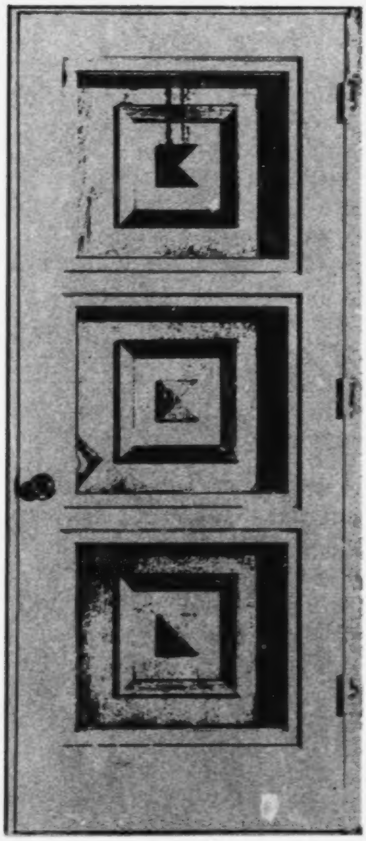
social structures

The institutions of marriage and the family, religion and work, will continue in the society of the future. But they will be transformed into more complex and varied arrangements, allowing the individual more leeway with respect to his participation. Relaxation of codes governing relationships between persons will also tend toward making individualistic forms of expression more available and acceptable. The quality of interpersonal relationships will improve as altruism becomes stressed. On the other hand, relations between major groups will become more strained as each attempts to promote conflicting interests.

marriage and the family

As a consequence of changes in work and leisure, modification in parental roles will have a considerable impact on family structure and child-rearing practices. Increasingly, early education and child-care will become the responsibility of agencies outside the home, especially as increasing numbers of mothers enter the labor force. Parents will have even less influence on their children in the future. Peer groups and communications media will gain greater control over socialization processes. Young Albertans are, for example, already relinquishing their ethnic ties in favor of a closer identification with the prevailing North American culture in which they find themselves.

The marriage contract will lose its binding force as values pertaining to the permanence of marriage are downgraded. This would continue a trend which, in Alberta, has already produced the highest rates of divorce and illegitimate births in Canada. Companionship and economic cooperation will highlight husband-wife relations.



Birth rates will decline, but not sufficiently to avoid more governmental regulation of parenthood toward the end of the century. However, before governments become directly involved in population control, they will use a number of monetary and educational devices to regulate birth.

religion

The influence of religious institutions on the individual is expected to decline as the value of denominational participation wanes. In fact, evidence of a trend favoring this direction was uncovered in a recent survey. Out of 4,000 people interviewed in Edmonton and Calgary a statistical breakdown revealed that 13 percent claimed no religious affiliation, while 60 percent reported that they did not attend church in the four weeks prior to the survey.

In years to come, an individualistic bias will characterize religious experience. Some of these experiences will be derived through such media as meditation, drugs and yoga. Emphasis on self-respect and self-concern will replace self-debasement. The theme of the community of man will also be given greater emphasis. These changes in emphasis will give rise to conflict in religious thought at both the personal and institutional levels.

Although specific religious values and existing institutions will be altered substantially, the quest for religious meaning will intensify in a society where values and goals are difficult to discern and achieve. Thus, the potential for a new religious revival will increase in the years ahead. If a revival does take place, it will be unlike that of today. This would be in keeping with Alberta's exceptional history of religious non-conformity.

work

A major shift will occur in the economic, social, spiritual functions and significance of work in the lives of many people. Changes in the nature and conditions of employment, reflecting technological developments; improved welfare systems or guaranteed annual incomes; growth in the amount of leisure time; and the breakdown of the work-ethic suggests that attachment to jobs and work organizations will be more tenuous for more people. This is apt to be especially true for the undereducated and the unskilled. Moreover, the harnessing of technology for human purposes can be expected to render work for remuneration neither feasible nor possible for increasing numbers of citizens.

The merging of work and leisure, coupled with the development of a self-fulfillment ethic, anticipates another shift in the future functions of work. For some, work will become a preferred activity, serving much the same purpose as leisure now does for certain individuals. This action implies greater occupational attachment and dedication. If this happens, the self-actualizing significance of work will be enlarged for more people who seek the same rewards of self-fulfillment in work as others do in off-job time.

interpersonal relationships

Codes of norms and behavioral prescriptions, which specify and govern interpersonal relationships, will become less rigid. Human associations will tend to be more altruistic as values ascribed to service, generosity, sincerity and charity become more dominant. Efforts to help one's neighbor will become somewhat more prevalent. However, it is likely that loneliness and social isolation will increase.

Conformity in behavior and physical appearance will be downgraded as people become more attuned to diversity. Greater tolerance of deviant behavior will result.

Interpersonal relations will become less structured, with less importance attached to the superior-subordinate interaction.

intergroup relations

The most serious widening of divisions in society will take place along cultural, regional, economic, and color lines. Opposing groups-rich-poor, young-old, French-English, red-white, management-labor-will draw further apart as they attempt to promote their special and often conflicting interests. The social arena will be characterized by increasing instances of hostility displacing reason, of power displacing due process, of confrontation displacing deliberation. The extent of provincial and national unity will depend on how effectively these divisions can be narrowed and conflicting interests reconciled.

social control

Religion, the family and the institution of marriage have traditionally played an important role in prescribing and regulating the behavior of members. Changes in the functions of these institutions, the loosening of ties binding individuals to these institutions and the relaxation of codes of norms governing interpersonal relations, suggest a deterioration in the ability of these institutions to regulate and contain behavior. This likelihood, when added to the growing complexity of modern life, will require government to play a more regulatory role in interpersonal and intergroup relations. Correspondingly, the responsibilities of elected authorities and limitations on personal freedom are expected to increase as the government mediation role is expanded.

Moreover, an expansive definition of the public interest will tend to enlarge the role of government generally. Environmental controls will be imposed on this basis, as will a number of policies intended to regulate activity in the economic sector.

In the more immediate future, law enforcement agencies will be called upon to perform additional regulative and control functions. This can be expected to create a backlash, with a resultant loss of respect for the law in its various forms.

social problems

Problems relating to mental illness, crime, social unrest, alcoholism, suicide and drug abuse will become more serious in the decades ahead.

mental illness

The inability of individuals to develop and pursue goals which they consider worthwhile will lead to more intensive and pervasive forms of alienation. Changes in family structure, society's gradualism in dealing with problems of technological change, government bureaucracy, pollution, leisure time, injustice, income disparities and the individual's difficulty in understanding a society in transition—all will contribute to estrangement. However, important opportunities for participation in ordering change, the restabilization of institutions and the clarification of values promise to stem alienation by the last decade of this century.

The prevalence of depression and incidence of mental illness will likely increase during the next 35 years. The suicide rate is likely to rise for the next 20 years, after which it will remain stable or decline.

crime and social unrest

Crime rates, including juvenile delinquency, will grow appreciably during the next two decades. Factors contributing to these trends include the inability of law enforcement agencies to adapt to rapid urbanization, rising expectations for improved personal and social conditions and the weakening of current institutions that socialize the young.

The *potential* for massive social unrest and instability will increase appreciably until at least the last decade of this century. We will see a continuation of the age of undirected revolution which began in the early '60's. Among the conditions that might trigger widespread social unrest are the widening of major divisions of Canadian society; the possibility of oppressive law enforcement measures to constrain expressions of social unrest; public reaction to such measures; and the inability of institutions to respond to the needs of young people.

alcoholism and drug use

Problems attending drug use and alcoholism will become increasingly severe as we draw near the end of the century. Albertans, in fact, already spend more on alcohol than the average Canadian. And our rate of alcoholism is now the major reason for first admissions of male patients to mental institutions.

Drug use is likely to rise sharply in the next 20 years as the move toward dependence on mood-altering drugs increases. This will reflect the inability of large segments of the population to cope with massive and pervasive social and technological change. In addition, drug use will come to be viewed not only as an outgrowth of personal and social problems but as a type of search activity by persons in pursuit of alternatives to dominant goals, values and life-styles.

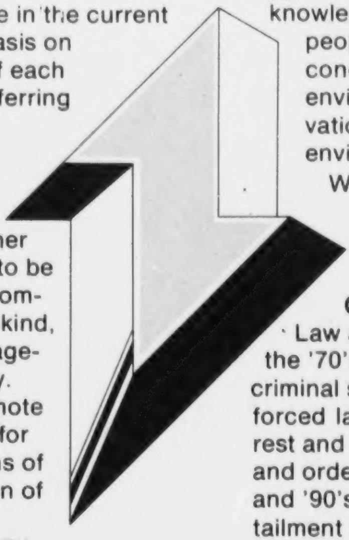
Critical moral questions will be raised by both the threat and potential of drug use. These questions will centre on the problem of control and accountability. What constraints are to be placed on the use of drugs for educational, self-serving or destructive purposes? Who is to make decisions for whom? There will, however, be growing acceptance of the view that control of drug abuse by youth necessitates a reduction in the misuse of alcohol, tobacco and prescribed drugs by adults.

value systems

A substantial shift in the value-system of society is anticipated in the years ahead. There will be greater emphasis on the well-being of the individual and on the social good. At the same time, values relating to law and order, patriotism and national identity will decline.

ascending values

A twofold and seemingly contradictory change in the current value-system will take place: toward an emphasis on values referring to the worth and well-being of each person; and toward an emphasis on values referring to the social good or the welfare of mankind.



Personalism taken to its extreme poses the threat of rampant individualism, a state of affairs in which persons functioning in isolation and insulation come to view each other as obstacles to be overcome or as resources to be used and abused. The value of individuality, combined with an emphasis on the welfare of mankind, holds the promise, however, of resolving the age-old conflict between the individual and society. It suggests that the individual's efforts to promote his interests will be accompanied by concern for his fellow man and tempered by considerations of the common good. It also suggests recognition of the view that man is primarily and essentially social: he belongs to something before he is anything. Whatever individuality he may have finds its roots in his social context and flowers out of that.

Individuality will be a major theme in our society's future. Individual worth and self-respect will become more important during the remainder of the century. Personal liberty and freedom will assume greater significance as increased government responsibility and limitations on the individual erode personal freedom. Values pertaining to privacy will be gradually and slightly upgraded in reaction to invasions of privacy and increased awareness of such invasions. Also, personal material welfare will come to be more highly prized, at least for a time.

The theme of individualism will also be evident in various aspects of our social life. Examples include the emphasis on personal fulfillment in marriage, the possibility of the work-fulfillment ethic and the emphasis on harmonizing as opposed to self-abasing and individually-obtained religious experience.

At the same time, values pertaining to the social good or the welfare of mankind will also become more important. Social consciousness and humanitarianism will extend into a number of areas. Civil rights and legal equality will be accentuated as the public becomes more aware of the administration of justice and as training in basic democracy becomes more effective.

Values regarding the availability of knowledge will be sharply upgraded. There will be increased demand for technical knowledge, as well as for knowledge about social problems as people attempt to understand and resolve them. Public concern over the lowering of the quality of the urban environment, coupled with the effectiveness of conservation groups, will lead to sharply increased emphasis on environmental values. Aesthetic values will be highlighted. We can also expect an upgrading of values referring to the availability and quality of health care.

declining values

Law and order values will be temporarily upgraded during the '70's, with a tendency toward the extensive use of criminal sanctions to control disorder. The increase in enforced law will be accompanied by an increase in social unrest and a decline in respect for justice through the law. Law and order values will then be downgraded during the '80's and '90's in reaction to instances of oppression and curtailment of rights, continued spread of crime and social unrest and because of a return to greater permissiveness in the social order.

There will be a slight upgrading of values ascribed to cultural identity and cultural achievement during the next decade, particularly among native peoples and older persons of French and Ukrainian extraction. During the following two or three decades, these values will decline somewhat. Patriotism will decline steadily as a value. Education, the mass media and travel will tend to expand loyalties beyond provincial or national perspectives.

population forecasts

Alberta's population patterns for the future will reflect the gathering provincial trends of the past, as well as the world-wide phenomenon of urbanization:

- **increasing numbers;**
- **declining proportion of young people;**
- **growing concentration of people in urban centres;**
- **continuing functional regionalization in rural areas.**

composition

The total population in Alberta is projected to increase by about 23 percent from 1970 to 1980. In numbers, the increase is from approximately 1,588,000 to 1,958,000. The two million mark will be reached in 1981. From 1970 to 2005, the population is expected to double–to more than three million, with an annual growth rate of about 2 percent–assuming a continued high level of net migration and the declining birth rate (a decline which began about 1961).

A salient characteristic of this growing population will be the decline in the under-25 age group as a predominant percentage of total population. From 1956 to 1970 the under-25 age group increased from about 48 percent to 51 percent of provincial population. From 1970 onward this percentage is expected to decline to 47 percent by 1980 and to 43 percent by 2005.

In the under-25 age group, the 5-11 age group will fall from 16 to 12 percent of the provincial population between 1970 and 1980. A similar drop will occur in the 12-17 age group in the last five years of this time period as the 230,000 figure of 1975 declines to about 207,000 in 1980.

The decline in basic education age groups will carry through to a subsequent decline in the higher education age groups from 1980 to 1990. From 1980 to 1990, the 18-24 age group will fall from a level of 273,000 to about 246,000.

Another persistent characteristic is apt to be the disproportionate number of Albertans over 40 operating farms or living in smaller centres. Still another is the likelihood that Edmonton will acquire one of the largest Indian and Metis populations in Canada.

Finally, much has been said of the post-war baby boom. But this awakening to a majority population under the age of 25 must also be viewed in the cold light of how it applies to our future. For the influence of this population bulge will be greater than both the generations before and after it. As those persons in the bulge grow older, pressure will be exerted not only for more educational facilities past the basic level, but for job opportunities, housing and eventually, increased old-age assistance.

location

Physically and psychologically, Albertans will become increasingly urbanized. Past migration to urban centres of 1,000 or more persons produced a 71 percent urban population by 1970. This gave Alberta the highest rate of urban growth and of mobility in Canada. This trend will produce an 80 percent urban population by 1980, and more than 90 percent of the province's three million people are expected to live in urban places by 2005.

The rural population will continue to concentrate in functional regions encompassing a radius of about 50 miles around one or more urban centres. Residents within these regions will remain interdependent as a result of geography and technology. The major city in the region will be looked upon as a natural centre of communication, trade, social activity and political interaction.

The population concentration process, aided by better transportation, improved highways and the tendency for new industries to locate close to existing industries, will favor the continuation of established cities as the major economic, social and educational centres in the province. The dominance of the Edmonton and Calgary regions will be extended, with 63 percent of provincial population located in these areas by 1980, and about 70 percent by 2005. Each will have over a million residents by the turn of the century.

Beyond the cities, a number of established towns will continue to be needed, particularly in fringe regions and more remote areas. But smaller towns and villages and those close to central cities will survive only where they can rely on resource-based or other localized industrial activity.

economic forecasts

The provincial economy has experienced a rapid growth rate over the past 20 years as evidenced in the rising value of the Gross Provincial Product, provincial government revenues, and per capita income. Economic growth has been accompanied by changes in the structure of production and pattern of output. In recent years, economic growth potential has been reflected in continued agricultural exports. A more spectacular growth potential emerged earlier with the successful exploration for petroleum and natural gas. This has become the basic growth cone of the provincial economy. The province's comparative advantage in interregional and international competition derives from the unique character of its resource base and the high energy requirements of the North American way of life. The forecasts about economic development and control, employment and economic values to 2005 assume a continuation of the forces that have generated current economic patterns and living standards:

- **continuing high growth potential of the total provincial economy amidst regional and sectorial disparities;**
- **rising levels of personal income and government revenue;**
- **diminishing relative contribution from agriculture to provincial income;**
- **extending dominance of resource-base industries;**
- **rising economic nationalism;**
- **waning of the values of capitalism, ownership and economic security;**
- **increasing professional, technical and service employment opportunities;**
- **continuing concentration and reduction in work time;**
- **participation by increasing proportions of the population, particularly women, in the labor force;**
- **growing governmental involvement in the regulation of economic affairs.**

economic development

Future economic development will be dependent upon industries that will be able to apply an increasingly complex technology to the natural resource base of the province. It will also require our taking full advantage of existing and future markets for oil and gas, agricultural products, manufactured goods and other resources.

gross provincial product (GPP)

On the basis of a 5 percent real growth rate and 2.5 percent inflation factor, it is expected that the GPP, which is the value of all final goods and services produced in the province, will rise from about $6.2 billion in 1970 to $11.9 billion in 1980 and to $56.1 billion in 2005.

On a per capita basis the GPP at a 5 percent growth rate is forecast to be $3,900 in 1970, $6,000 in 1980, and $18,500 in 2005.

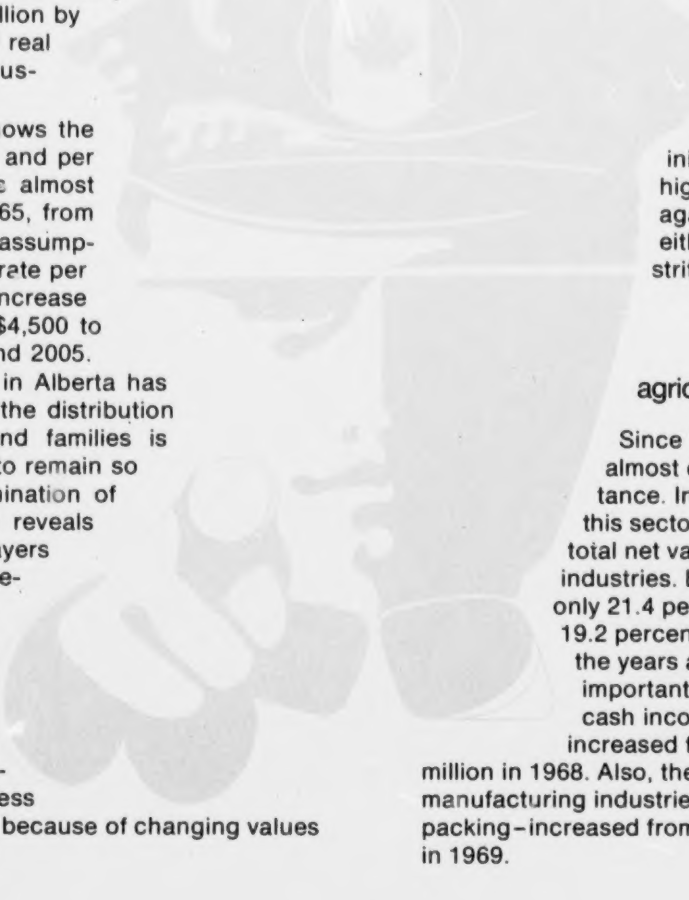
These forecasts may be conservative in that a 5 percent real growth rate is a lower growth rate than that actually experienced in Alberta during the last two decades. Also, the most recent Economic Council of Canada report suggests that a sustained annual growth rate of 6 percent will be necessary in order to create the 1½ million new jobs that will be required across Canada by the mid-'80's.

personal income

The total personal income of Albertans in current dollar values increased from $930 million in 1950 to $2.9 billion in 1965, or more than triple. It can be expected to rise from about $4.6 billion in 1970 to nearly $9 billion in 1980 and to $42 billion by 2005, assuming that an annual real growth rate of 5 percent is sustained.

Per capita income, which shows the increase in income per person and per family, in current dollar values almost doubled between 1950 and 1965, from $1,019 to $1,992. Under the assumption of a 5 percent real growth rate per year, per capita income will increase from approximately $3,000 to $4,500 to $13,800 between 1970, 1980 and 2005.

Although per capita income in Alberta has grown rapidly in recent years, the distribution of income among persons and families is strikingly unequal and is likely to remain so in the immediate future. Examination of the 1967 income tax returns reveals that 40.2 percent of the taxpayers earned $3,000 or less while receiving 13.7 percent of the taxable income. The annual net income for an Alberta farmer in 1970 was $1,325, with 69 percent of the 65,000 farmers actually having incomes below this meagre average. Such disparities in income will become less pronounced over the long-term because of changing values and alterations in public policy.



provincial government revenue

Provincial government revenue totalled $285 million in fiscal 1957. By fiscal 1968, this revenue total increased by 185 percent to $813 million. During this same time period, personal income increased about 167 percent. Based on the existing tax system and a 5 percent growth rate in personal income, government revenues should reach $2 billion by 1980, not including grants from the federal government.

sector growth

In the previous three decades, the economy of Alberta has undergone rather comprehensive changes which have affected the structure of industry and the relative importance of various secto or components. The next three decades will see an intensification and consolidation of the trends thus initiated. As the province becomes mor highly industrialized it will have to guar against becoming self-extinguishing, either from resource exhaustion or fro strife over pollution and resource rights.

agriculture

Since 1940, agriculture has experienced a almost continuous decline in relative importance. In 1950, the net value of production fo this sector accounted for 44 percent of the total net value of production of all provincial industries. By 1960, agriculture accounted for only 21.4 percent. By 1969, this had dropped to 19.2 percent and further decline is anticipated i the years ahead. However, agriculture is still a important source of income. Alberta's total cash income from the sale of farm products increased from $359 million in 1950 to $811 million in 1968. Also, the total value of products produced by manufacturing industries allied with agriculture–i.e., meatpacking–increased from $271 million in 1965 to $347 million in 1969.

mining and resource-base industries

The growing importance of the mining sector to the provincial economy is reflected in the fact that the net value of mining production grew from 16.3 percent of net value of industrial production in the province in 1950 to 33.9 percent in 1969. The expansion of this sector is due largely to the development of natural gas and petroleum production. Crude petroleum is the most important mineral product. In 1969 it accounted for 61.3 percent of the total value of all mineral products. In a nine-year period, 1961 to 1969, the value of produced crude oil more than doubled.

Natural gas is the second most important mineral, accounting for 18.3 percent of the total value of minerals produced in 1969. During the period 1961-1969, the value of natural gas output increased by 350 percent. The value of natural gas by-products also increased from $23.1 million in 1961 to $129.8 million in 1969.

The coal industry declined as a growth force during the '50's but began to reassert itself during the '60's. It is likely that coal will continue to grow in importance as a fuel for thermal plants and export. However, it is not expected to match oil and natural gas in the near future as a source of basic income.

Elemental sulphur became an important source of revenue during the '60's. Its value rose from $6 million in 1961 to $61 million in 1969. Although short-run prospects for the sale of sulphur look bleak, there is considerable long-run potential arising from new uses.

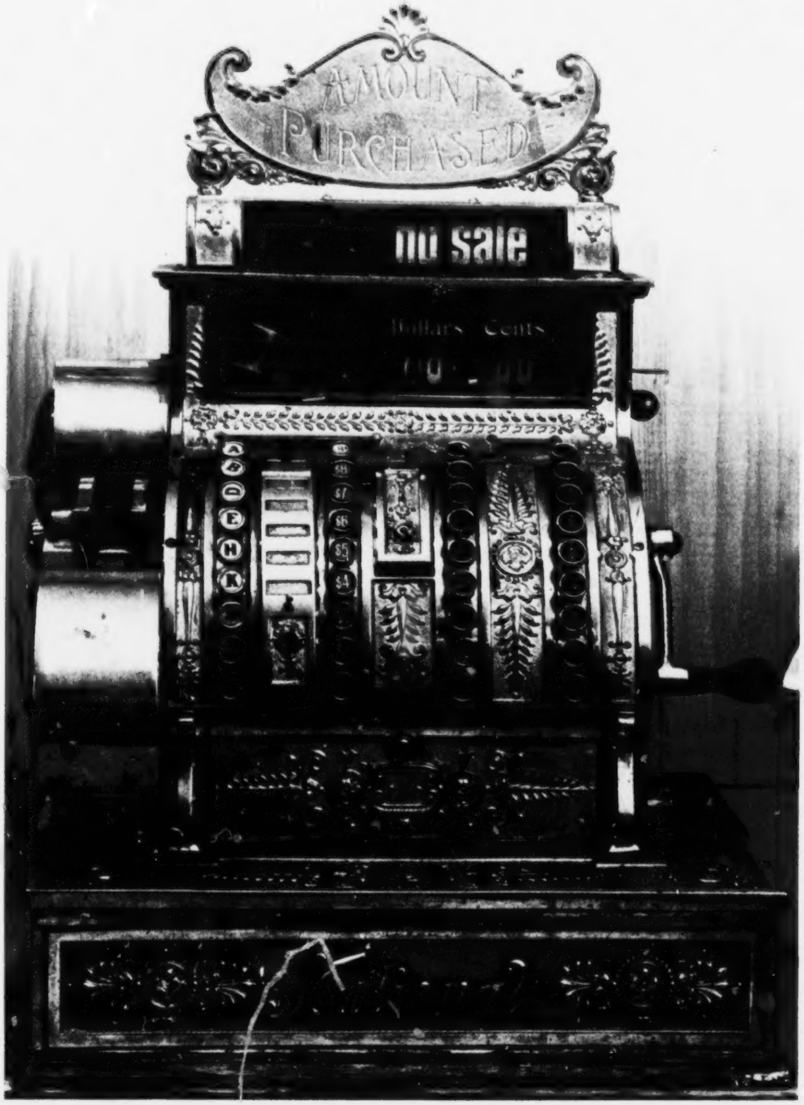
construction

Construction showed a steady upward trend in absolute terms and a variable share of total industrial output between 1935 and 1969. Construction's share of the total net value of industrial output was 11.5 percent in 1940. This share grew to a high of 29 percent in 1960 but declined to about 24 percent in 1969. An upward trend is likely to be reasserted later in this decade.

manufacturing

The manufacturing sector's contribution to industrial output shows considerable stability over a 20-year period. In 1950 it contributed 16.5 percent of the net value of production. Subsequent to this period, it reached a high of 22.1 percent in 1960 and was 19.9 percent in 1969. Its share of total output is not expected to change substantially in the near future.

CANADA NEEDS
YOU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forestry

The contribution of the forestry sector to the total primary and secondary output has declined in the past 10 years and in 1969 was 0.2 percent. While the value of forestry output is not large relative to sectors such as mining, data on timber resources suggest considerable potential for continuing growth of the industry. The more than 59 billion cubic feet of timber resources available for industry suggest that forestry resources will play an increasingly important future role in provincial economic activity.

electric power

The net value of electric power produced in Alberta shows long-term stability. The value of output of this sector, relative to others, is small and is likely to remain so in the years ahead. Its contribution to total output in 1969 was 3.1 percent.

services

The production and distribution of services includes wholesale and retail trade activities and a variety of community, business and personal services.

Total value of wholesale trade in the province rose from $1.2 billion in 1966 to $1.5 billion in 1969, an increase of 25 percent over the four-year period. The most important type of wholesale trade is the sale of groceries and meats, now accounting for more than 25 percent of the overall volume of services. The sale of petroleum and petroleum products ranks second, with sales approaching 17 percent of wholesale trade in the province.

Retail trade sales increased from $1.7 billion in 1966 to $2.2 billion in 1969. Motor vehicle dealers (20%), grocery and combination stores (18%), department stores (14%) and garage and service stations (10%) were responsible for the majority of sales.

Hotels, tourist camps and restaurants account for almost 60 percent of the receipts for community, personal, and business services, which together totalled over $350 million in 1966.

The services sector of the provincial economy will grow rapidly in the years ahead, responding to demands generated by greater affluence and leisure time.

supply of resources

The most important contributing sector to the Gross Provincial Product are the resource-base industries: petroleum, natural gas and coal. The province is the main producer of petroleum in Canada. The number of barrels of crude oil produced in the province rose from 10.5 million in 1948 to 250.7 million in 1968. Nationally, the amount of crude oil produced was 11.9 million in 1948 and 372.7 million barrels in 1968. On the basis of estimated proven remaining resources, Alberta can expect to continue to dominate the country's petroleum production since it has nearly 87 percent of the total estimated remaining reserves of crude oil in Canada. The life-index of this resource is estimated to be between 10 and 30 years.

Alberta also dominates the production of natural gas in Canada. Provincial production of natural gas increased from 56.6 billion cubic feet in 1948 to 1.4 trillion cubic feet in 1968. During the same period, national production of natural gas rose from 66.2 billion to 1.8 trillion cubic feet. The province will continue to dominate Canada's natural gas production since more than 80 percent of natural gas reserves are located within its boundaries. The estimate is that the ultimate recoverable reserves of natural gas in the province will approximate 100 trillion cubic feet, giving it a life-index of between 10 and 30 years.

Continued development of coal reserves for domestic use and export is also anticipated. Recoverable coal reserves are estimated at about 24 billion tons. The supply of sulphur is also capable of meeting increases in export demand. Renewable resources, such as water, forests and recreational and agricultural land, also hold potential for expanded economic development.

economic values

The growth of nationalist sentiment, accompanying accelerating concern over foreign ownership and control, will continue in the next two decades. One of the major problems citizens of this province will have to face is rendering economic nationalism compatible with rapid economic growth. Greater emphasis on Canadian unity and identity in the media, government activities and educational programs will all contribute to the resurgence of nationalism.

Values pertaining to current principles of political and economic organization will undergo pervasive alteration. Values attached to capitalism and notions of private ownership will decline considerably. The strength of opposition to the capitalist system will increase steadily over the next three decades. On the other hand, a consistent and unified radical opposition to the capitalist system is unlikely to materialize.

Although values ascribed to national prosperity will be upgraded, conceptions of wealth and status will shift. There will be a decline in the importance attached to ownership, property rights and economic security. Material wealth will diminish in importance as a criterion of status. Values ascribed to ownership and property rights will be upgraded slightly during the next decade, after which they will be steadily downgraded. Rising costs, increased geographic mobility and government policies pertaining to land use will contribute to the long-term downgrading of ownership. Also, values ascribed to economic security will likely wane, especially after this decade has passed, because of the popular appeal of guaranteed annual income with the institutionalization of retirement funding and with the social provision of housing, education and health services.

economic control

Both the federal and the provincial governments will expand their regulative functions with regard to the economic life of the country. A concern with foreign domination will be an important factor serving to legitimize more direct government intervention in key sectors of the economy. Government will also have to engage in compensatory activities for disadvantaged groups and depressed areas that are bypassed by economic developments generated by urbanization and sophisticated technology. Additionally, it can be expected that government will be more active in the definition and provision of manpower requirements to avoid, as much as possible, the mismatching of supply and demand.

Greater government involvement in the labor-management field is to be expected. When the general social and economic benefits of unionization and corporate management are nullified, or reversed, by the disruptive effects of confrontations between these groups government will find it necessary to resort to more drastic alternatives: wage and price controls, compulsory arbitration, the outlawing of strikes and the declaration that virtually all occupational endeavors constitute essential public services. This latter alternative will gain favor as urbanization magnifies interdependency.

employment

The labor force participation rate with respect to total population for the province is projected to rise from 40 percent in 1969 to 42.6 percent in 1980 to 48 percent in 2005. The most significant shifts in labor force participation in various occupational sectors include increases in professional, technical and services employment, together with a continuing decrease in agricultural employment. Professional and technical employment is expected to grow from 16 percent in 1975 to 19 percent of total employment in 2005. Agricultural employment will drop from a projected 10 percent in 1975 to 5 percent of total employment in 2005. Labor force propensity should continue to grow, despite longer schooling and early retirement, because of the significant increase of women in the labor force.

A number of changes in employment rates for various sectors of the economy occurred between 1961 and 1969. The most significant shift was the increase in percentage of people employed in the service sector of the economy. In 1961, 17 percent of the labor force was engaged in community, business and personal services. By 1969, this had increased to 24.4 percent. Another shift was the increase in percentage of people employed in trades (from 11.8 percent in 1961 to 13.6 percent in 1969) manufacturing (7.5 percent in 1961 to 8.6 percent in 1969) and construction (5.2 percent to 6.2 percent in 1969). There is no reason to believe that these employment trends will be reversed in the future.

Hard-core, long-duration or chronic unemployment of workers who have been displaced by structural or technological changes will tend to persist for at least another decade. Those engaged in manual labor, clerical work and repetitive industrial tasks will be primarily affected. Toward the end of the century, enlightened preventative and remedial public policies will tend to alleviate this problem. But for the next few years, job creation for young adults

poses a most serious challenge in Alberta, and for Canada as a whole.

Conditions of employment will undergo considerable change. The forecast is for a decrease in, and concentration of, work time. A smaller proportion of time will be spent in occupational endeavor by all types of workers. Growth in free time will probably be greater for skilled and white collar workers than for the unskilled and the professional-managerial categories. The individual's total work-life will be shortened as a result of later age of entry into the labor force and earlier retirement. While the average age of entry into the labor force will increase for all categories of workers, entry age for the unskilled labor group will increase sharply. Length of the work week will decline and be limited to a three or four day period. The length of annual vacation will probably increase for all categories of workers, with the greatest increase in the skilled worker category.

technological trends

Technology is a major agent of social change. It extends man's understanding and control over himself and his environment. In the past few decades, scientific and technological developments have greatly altered man's institutions, his life-styles and his aspirations. There is little doubt that advances in science and technology will occur in the years ahead and that they will have the potential to influence all areas of human life, ranging from physical and material welfare through to the posing of crucial ethical and political problems. Technological forecasts likely to have a direct bearing on education in the foreseeable future are:

- **increasing sophistication with respect to the storage, retrieval and transmission of information;**
- **growing development and widespread adoption of technological systems and services in education;**
- **extending human capacities through chemical and mechanical means;**
- **improving ability to control human behavior and to manage personality.**

physical technology

Advances in communications systems and the storage and retrieval of information are among the forms of physical technology which will better equip man to improve his control over the environment.

In the future, electronic equipment, including computers, will become much more sophisticated. It will also be miniaturized and less expensive. New techniques for communicating directly with computers in the English language are currently under intensive development. By the 1980's, it will be possible to submit a program to a computer that will answer in the English language without the use of tape-recorded messages. Another expected breakthrough is the building of a computer that can respond to standard IQ tests and consistently score above 150. By the turn of the century, computers are expected to be able to match, simulate or surpass some of man's most human intellectual abilities.

Methods of storing, retrieving and transmitting information will be greatly improved during the next 35 years, making various kinds of information more readily available. The cost of information transmission, storage and processing will become much less expensive. By the '80's, central data storage facilities with wide public access will have been established to provide library, medical, legal and other kinds of information. For example, it is likely that a central data bank will be developed to keep updated records of the entire Canadian population. Also, central files for recording scientific advances will be established so that this information can be constantly updated and maintained.

The home will have greatly expanded communication capabilities during the next three decades. By the 1990's, over half of the homes in the country will be equipped with devices which permit on-demand retrieval of information, displayed on the home TV, for purposes such as catalogue searching and news. More advanced homes services, involving two-way interaction between persons, or between person and machine, are likely to be introduced before the turn of the century. One example of this type of service is computer-assisted personal financial planning. By the early '80's, such services will have achieved a minimum level of acceptance and by the end of that decade a majority of homes will be equipped with and using such services. On the other hand, should the present inequality of housing persist, the potential of the home as a learning centre would be restricted for many.

use in education

One of the most significant changes in future education will be the extent to which technological systems and services will be used, not only in institutions for schooling but also in the home. Technology will provide devices to be employed by teachers as aids to instruction. Students will employ various devices to obtain information and to learn through self-serve techniques. Computers and information banks will be used for a number of educational purposes, such as record keeping, retrieval, analysis and instruction. Technological services will also facilitate research.

computer assisted instruction (CAI)

Instructional uses of computers have been under investigation for more than 10 years and are being experimented with at all levels. CAI has developed from the idea that the computer can be used to facilitate the learning process. Proponents of this technology predict that it will make teaching more individualized, provide greater understanding of material and enable the student better to control the teaching process.

It is anticipated that CAI will gain widespread usage at all educational levels in the next two decades. Widespread usage will occur first in higher education, followed by senior levels of basic education and then in junior grades. The two stumbling blocks to widespread adoption of CAI appear to be financial resources and programming. If further research in CAI can demonstrate that these systems will enhance the learning process, funds will be easier to obtain. Difficulties in convincing the public of the utility of CAI will likely impede progress in the adoption of this system.

information retrieval systems

Information retrieval systems consist of a set of procedures for storing and retrieving data in an organized way so that they can be easily found and utilized by interested persons. Computerized library services will be used at all levels of education during this century.

There will likely be some integration of these Computerized Learning Systems (CLS). That is, schools will move from the situation where they will have their own CLS to a point where there will be a CLS serving all stages of recurrent education. The forecasts indicate a pattern of adoption which will see CLS gaining initial usage in institutions serving adults, followed by usage in those serving children and youth. Factors influencing the implementation of CLS include costs, logistics and number of institutions involved. It is expected that problems of cost and logistics will be overcome in the next 10 or 15 years. Thus, the number of institutions requiring and desiring such service may be the determining factor in the eventual pattern of adoption.

audio-visual display services

Information Retrieval Television Service (IRTV) is a system that uses a central retrieval centre housing a large library and a coaxial cable distribution system linked to television sets in individual classrooms. IRTV is simple and easy to use, provides access to large libraries and enables the teacher or the learner to retrieve and display audio-visual material on demand or on schedule. Another method of providing audio-visual displays on classroom TV is a cassette-type system of tapes.

It is forecast that all institutions will be using IRTV or a similar service during the next 15 years. If such a service is not generally adopted within 30 years, the most significant reasons will be that the service is too costly, teachers are resistant and that an art form suitable to the media has not been developed. Unlike the pattern of adoption anticipated for CAI and CLS, IRTV, or a similar system, will be utilized at all educational levels at about the same time. Integration of schools or institutions at each level for the purpose of IRTV is expected. Most of the integration will occur during the '80's. Accordingly, IRTV type systems will be an important component of the educational process in the future.

technology in the home

Expanded communication capabilities in the home will make possible a variety of new approaches to education via computer-assisted instruction, remote problem solving and instructional television. Consequently, the technological opportunity to make education a home-centred activity will dramatically alter our present institution-bound concept of education. And this trend toward decentralized learning facilities will begin before 1980. By the late '70's, students at the higher education level will be spending more time at home working alone or in small neighborhood study groups. The same development will take place for senior students in basic education by the middle of the next decade and for the younger ones by the '90's. Older persons will also be affected by the educational implications of home technology.

The need to pursue learning throughout a lifetime, for whatever reason, will be facilitated by the capability for one-way and two-way communication in homes and the adoption of technological services (i.e., IRTV). Consequently, educational institutions will tend to become resource and organizational centres facilitating the development of individual and group learning experiences in ways quite different from those of today.

person-changing technology

An outcome of biological research and development will be advances in techniques for controlling behavior and bringing about personality change. By the '80's, inexpensive non-narcotic drugs will exist in the public realm for producing specific personality changes such as euphoria, reduced anxiety or aggressiveness, and increased attention or learning ability. Their availability and social acceptance will lead to improvements in mental therapy and criminal control. By the turn of the century, new, more varied and more reliable drugs for the control of fatigue, relaxation, mood, perception, fantasy and other psycho-biological states will also exist. Generally, these new drugs will be used extensively in advance of their legitimization.

Mechanical and chemical methods for improving analytical ability probably will have been developed by the year 2005. Drugs will be capable of raising the level of intelligence in some persons, allowing them to solve problems previously beyond their capacity. Direct extension of mental capacity, by the mechanical or electrical interconnection of the human brain with a computer, is less likely to occur in the next 35 years, yet it remains an important possibility. Other methods of behavior modification likely to occur between 1985-2005 include chemical methods for improving memory; radio stimulation of the brain, and brain surgery or psychochemicals for modifying the behavior of criminals.

use in education

The use of the chemical and mechanical means noted previously, along with hypnosis and forms of genetic engineering to enhance the process of learning, have to be considered as possibilities for the future. However, it is anticipated that only drugs will gain widespread acceptance in this century.

needs of the individual

Needs of the individual include both basic needs and higher order needs. The first set of needs pertains to physical survival and physical well-being. Such fundamental requirements as food, clothing, air and water, shelter, physical space and health care are included. The individual's physical survival requires only a minimum level of satisfaction of these requirements. Physical well-being demands a much higher level of satisfaction of these basic needs. The higher order needs refer to the more variable and less tangible social, intellectual, spiritual and emotional requirements of individuals in search of autonomy and integrity.

Basic needs must be met to a large degree before higher order needs can be satisfied. Frustration of basic needs precludes satisfaction of the higher order, since the individual is first preoccupied with improving his physical well-being. Although individual requirements for the satisfaction of higher order needs vary, prolonged frustration of these needs undermines emotional well-being and personal stability. As individuals and populations grow to greater maturity and affluence, they become less motivated to achieve goals relating to lower order needs and become more motivated to achieve goals relating to higher order needs.

The evolution of needs toward higher levels of consciousness has already begun in Alberta. Because individual needs are met as a person participates in the social and economic life of a society, the forecasts found prior to this sub-section will take on added significance. By interacting on and within individuals they will help to add to the diversity and divergence, the satisfaction and frustration, and the challenge and opportunity of future times.

The results will be:

- **rising expectations for the satisfaction of physical, social and security needs;**
- **increasing threat to privacy, personal liberty and rights of the individual;**
- **extending opportunity to choose personal values, life-styles and type of participation in major institutions;**
- **continuing potential for the frustration of social needs;**
- **growing emphasis on self-fulfillment;**
- **increasing potential for self-fulfilling experience, with decreasing ability to use opportunities.**

physical needs

Continuing prosperity, together with government efforts to provide for lower income groups, holds the promise of improved provision of most physical requirements for all. Health care, pure air and water will be the major focus of controversy.

Health care will improve. Although the quality and availability of health care is now greater than ever before, expectations will expand and values ascribed to health care will be upgraded, despite the threat of higher costs.

Improvement of health care involves movement toward total services for everyone and an upgrading in the quality of existing services. Rising expectations on the part of the public, shortage of qualified personnel, greater availability of knowledge about health care, the shift toward preventive medicine, the rise of genetic counselling and the spread of a physical fitness syndrome are factors that will contribute to improvement in the standard of health care available to each individual in the province.

On the other hand, forecasts that include increasing population concentration in large urban areas and disturbance of ecological balances indicate a threat to our physical environment. Each person's physical environment may be threatened by continued economic growth with its attendant pollution of air and water and disturbance of ecological balances. Environmental values will be emphasized by individuals as a result of the effectiveness of conservation groups, public education and the lowering of the quality of the urban environment below acceptable standards. Environmental values will be in conflict with industrial and commercial values which, historically, have been accommodated in legislation. Therefore, some corporate resistance to the upgrading of environmental values in regulatory and legislative actions is to be expected.

Overcrowding, arising from population growth and concentration, will encroach on the individual's need for personal living space. Better urban planning and improved building design will tend to alleviate this problem somewhat in the next decade or two.

John.
Jones
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security needs

Security needs relate to protection against personal stress, danger, intimidation and deprivation. Earlier forecasts pertaining to economic growth, employment, law enforcement and the role of government are directly relevant to the satisfaction of individual needs for security.

Continuing growth of the provincial economy, accompanied by higher levels of employment, hold the promise of continued prosperity, higher levels of income and higher levels of consumption of goods and services. Although society will become richer, the current unequal distribution of income is forecast to continue into the future and a greater proportion of people will live in poverty. Poverty and deprivation, however, are relative to the level of income and consumption enjoyed by the general population; and so as society gets richer the definition and upper limits of poverty will change. Also, there are indications that the dependence of members of lower income groups on the state will increase as government compensates for policies that create less than full employment by improving provisions for those affected.

Although these developments seem to rule out the possibility of severe hardship resulting from economic deprivation, individuals will not necessarily share more equally in prosperity. At the same time, it is likely that increased leisure and continuing prosperity will be accompanied by growing aspirations for improvements in personal and socio-economic security. As society becomes richer and as expectations rise, awareness of deprivation and frustration will become more acute. Hence, individual members of disadvantaged groups will be more aware of their deprivation, more knowledgeable as to the sources of deprivation and less willing to accept their condition.

Also relevant to personal security are developments that have potential to endanger the liberty, privacy and rights of the individual. A reduction of individual privacy and liberty will occur as a result of advances in communications technology, increased bureaucratization, intensified law enforcement, population concentration and crowding in large cities.

As government is forced to reconcile competing group interests, there will be a corresponding reduction of individual freedom. In order to assure the basic freedoms for all, the freedom of each will be somewhat reduced. At the same time, the resultant bureaucratization and loss of privacy will cause more concern for individual freedom and greater emphasis on values of personal liberty.

Infringement on individual rights will also arise from the actions of law enforcement agencies as they attempt to cope with increased crime and expressions of social unrest. Intrusions upon the person may be justified as unavoidable outcomes of the need to maintain law and order. The potential for oppression of the individual and curtailment of his rights often leads to a personal hesitancy to use existing appeals systems to seek redress. A serious threat to personal security is inherent in this kind of development.

The contradictions stemming from social activities that limit, or appear to limit, the liberty, privacy and rights of individuals at a time of rising expectations for the satisfaction of security needs will heighten feelings of uncertainty, irritation and stress in many persons in the years ahead.

social needs

Social needs refer to acceptance from others, concern for others, belonging, support, and association. These needs are dependent upon group identification and are met, however imperfectly, within the context of participation in groups and social institutions.

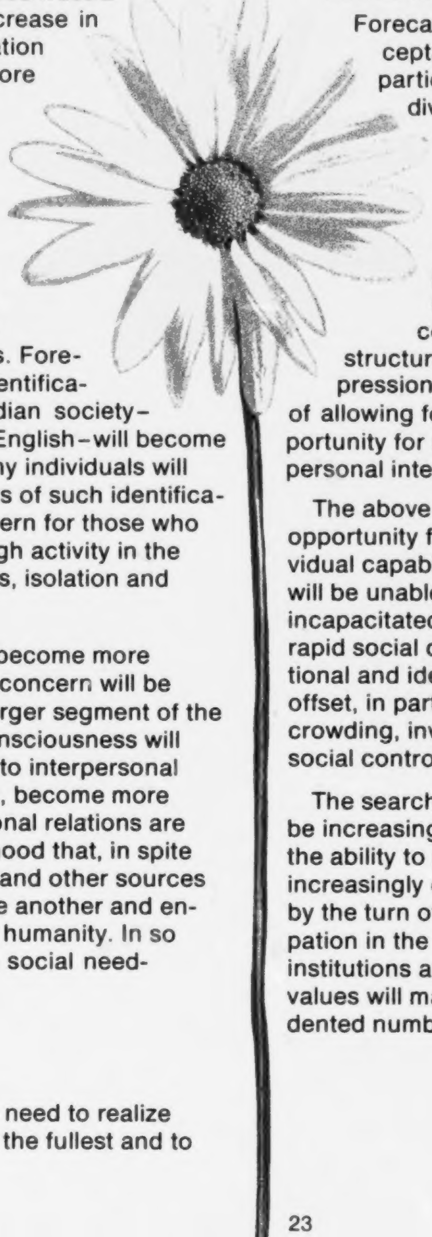
Expectations regarding the satisfaction of social needs will also rise. Accordingly, there will be greater demand on institutions for their gratification. The emphasis on personal fulfillment in marriage, the development of a work-fulfillment ethic and the desire for harmonizing religious experience are illustrative of the demand that institutional participation yield higher levels of social-need satisfaction. A second aspect of the upward shift in definition of social needs involves the likelihood of greater concern for others, or an extension of the individual's area of concern and involvement to a broader spectrum of mankind.

Concurrently, institutional changes will provide more opportunity for the individual to choose styles of institutional participation and forms of interpersonal interaction which best meet his personal requirements for acceptance, support and belonging. Also, the dependence of the individual on a given institution for need-satisfaction will decline. He will have more opportunity to seek out alternative sources. For example, the forecasts anticipate that traditional religious institutions will become less important sources of support and association for many people. There will be more options regarding religious participation, and more people may choose to seek fulfillment of their spiritual and social needs elsewhere.

Changes that diminish the domination of the individual by traditional institutions and loosen ties to family, marriage and religion, also have negative implications for the satisfaction of social needs. Such changes will tend to undermine important sources of support and belonging. Thus, in the future, more people will be less able to rely on clear-cut institutional behavioral prescriptions, less able to assume well-defined roles and less likely to follow well-marked paths in many aspects of life. Traditional roles and institutional arrangements will be transformed into more complex and varied arrangements.

The individual will be more aware of the existence of alternatives and have more decisions to make. He will be less able to accept unthinkingly any one institutional arrangement and to adopt unconsciously a specific role, set of values, life-style or type of attachment to institutions. This state of affairs,

combined with the absence of enduring and predictable attachments to major institutions, will create considerable individual confusion and unease, at least in the immediate future.



A number of forecasts anticipate increased frustration of social needs. There will be an increase in the prevalence of loneliness, social isolation and alienation as individuals become more detached from institutional controls and support. Personal values will not have stable social support. Attachment to institutions in the sense we now know it will become more difficult for more people.

Conversely, the developments noted above may be accompanied by greater emphasis on loyalties and identifications that go beyond immediate involvement in traditional institutions and primary groups. Forecasts suggest that the importance of identifications related to major divisions in Canadian society–young-old, rich-poor, red-white, French-English–will become more salient in the future. Therefore, many individuals will make greater efforts to further the interests of such identification groups in the political arena. As concern for those who share similar problems is expressed through activity in the service of wider group interests, loneliness, isolation and alienation will tend to dissipate.

Value of work in the service of man will become more important in the future. Areas of personal concern will be extended and enlarged to encompass a larger segment of the community of man. This broadening of consciousness will be further stimulated as values pertaining to interpersonal relations, service, generosity and sincerity, become more important and norms governing interpersonal relations are relaxed. Thus, there is a very strong likelihood that, in spite of, or because of, isolation and alienation and other sources of tension, individuals will reach out to one another and endeavor to make the most of their common humanity. In so doing, each will achieve a higher level of social need-satisfaction.

self-actualization

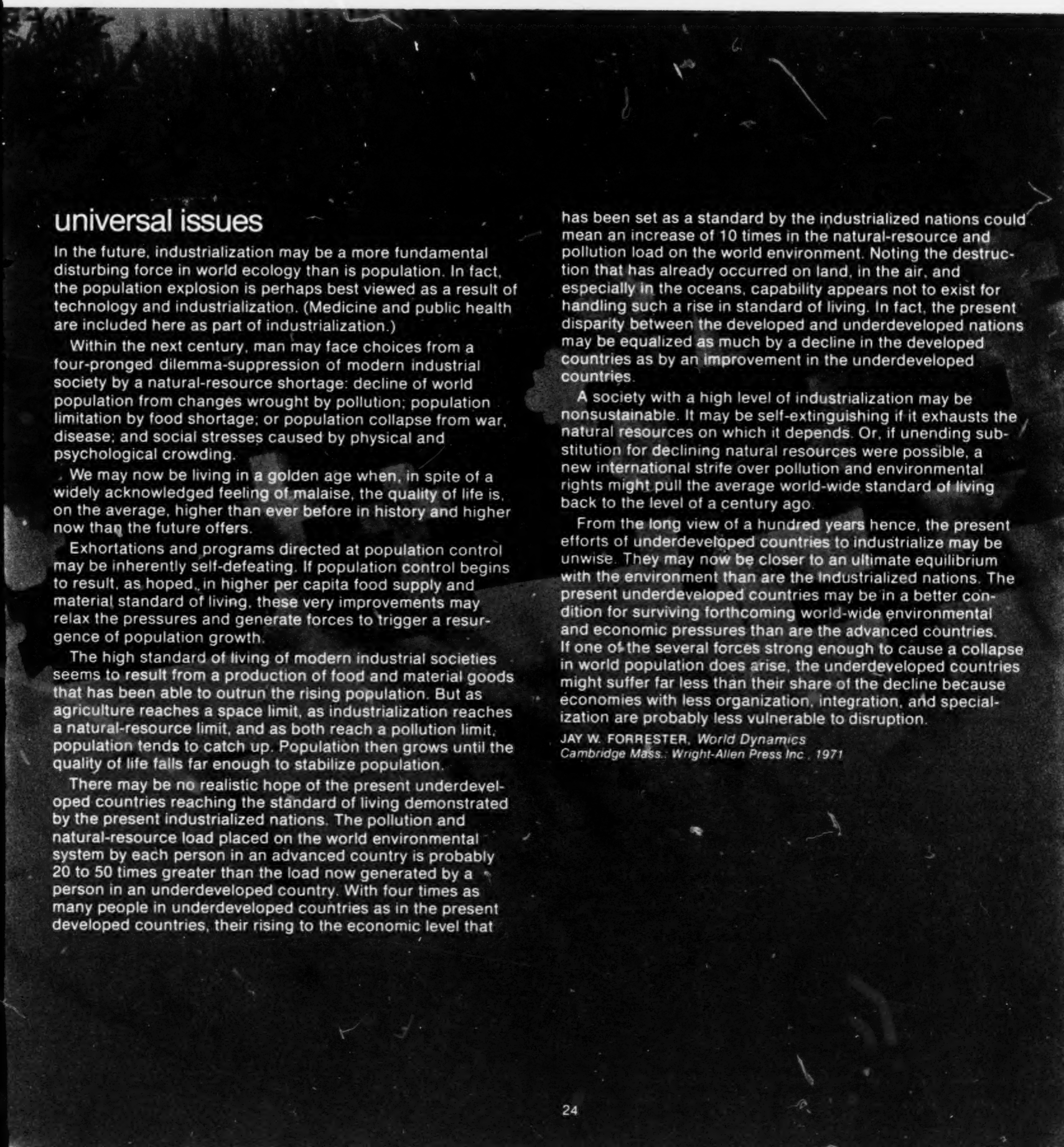
Self-actualization refers to the individual's need to realize his full potential, to develop his abilities to the fullest and to respond openly to every experience.

In the future, there will be greater emphasis on, and a higher value attached to, self-fulfillment. The search for personal identity will assume new importance. And this search is already underway. It is mirrored in the questioning of traditional values by the young.

Forecasts point to an increase in the availability and acceptability of individualistic forms of expression and participation. Increase in leisure time, emphasis on individuality, development of a self-fulfillment ethic in work, diminished institutional domination of the individual, and increased efforts by major institutions to reassert democratic values, together with a renewed emphasis on the individual and his needs, are all developments which have potential for enhancing self-actualizing experiences and goals of self-fulfillment. These changes constitute the removal or minimizing of traditional structural and ideational constraints on individual expression and need-fulfillment. They tend in the direction of allowing for a more individualistic stance and more opportunity for self-expression in group participation, interpersonal interaction and choice of life-style.

The above prospects hold the promise of enhanced opportunity for satisfying personal needs and realizing individual capabilities. However, it is also likely that many people will be unable to use these opportunities because they will be incapacitated by their inability to cope with, and adapt to, rapid social change. Also, the impact of diminishing institutional and ideational constraints on the individual will be offset, in part, by such stress-producing forces as overcrowding, invasions of privacy, and restrictive modes of social control.

The search for self-fulfillment in the immediate future will be increasingly frustrated and many individuals will not have the ability to pursue goals they consider worthwhile in an increasingly complex society. However, it is anticipated that, by the turn of the century, opportunities for individual participation in the ordering of change, restabilization of major institutions and the widespread adoption of more humanistic values will make self-actualization a reality for an unprecedented number of citizens.



universal issues

In the future, industrialization may be a more fundamental disturbing force in world ecology than is population. In fact, the population explosion is perhaps best viewed as a result of technology and industrialization. (Medicine and public health are included here as part of industrialization.)

Within the next century, man may face choices from a four-pronged dilemma-suppression of modern industrial society by a natural-resource shortage: decline of world population from changes wrought by pollution; population limitation by food shortage; or population collapse from war, disease; and social stresses caused by physical and psychological crowding.

We may now be living in a golden age when, in spite of a widely acknowledged feeling of malaise, the quality of life is, on the average, higher than ever before in history and higher now than the future offers.

Exhortations and programs directed at population control may be inherently self-defeating. If population control begins to result, as hoped, in higher per capita food supply and material standard of living, these very improvements may relax the pressures and generate forces to trigger a resurgence of population growth.

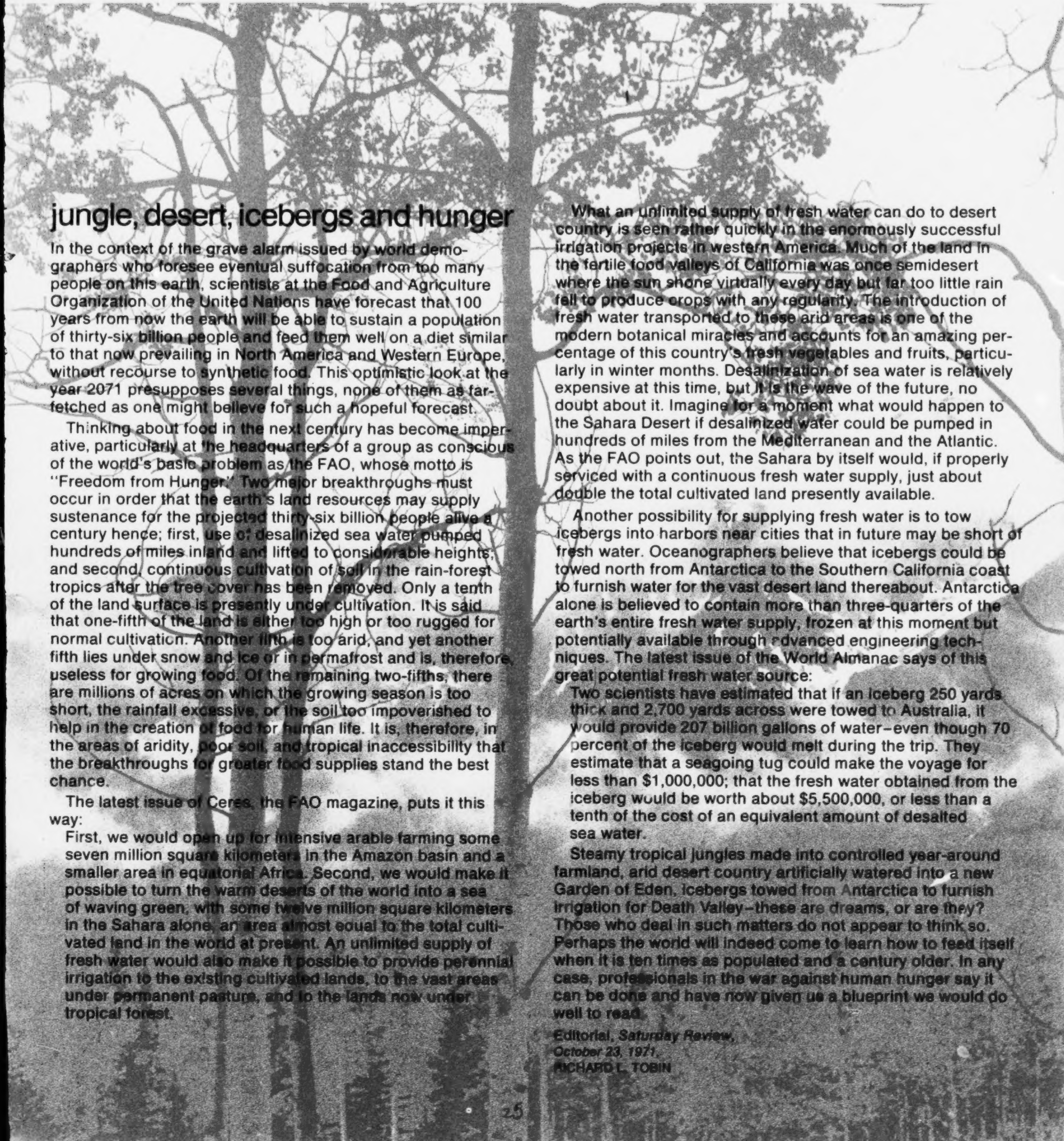
The high standard of living of modern industrial societies seems to result from a production of food and material goods that has been able to outrun the rising population. But as agriculture reaches a space limit, as industrialization reaches a natural-resource limit, and as both reach a pollution limit, population tends to catch up. Population then grows until the quality of life falls far enough to stabilize population.

There may be no realistic hope of the present underdeveloped countries reaching the standard of living demonstrated by the present industrialized nations. The pollution and natural-resource load placed on the world environmental system by each person in an advanced country is probably 20 to 50 times greater than the load now generated by a person in an underdeveloped country. With four times as many people in underdeveloped countries as in the present developed countries, their rising to the economic level that has been set as a standard by the industrialized nations could mean an increase of 10 times in the natural-resource and pollution load on the world environment. Noting the destruction that has already occurred on land, in the air, and especially in the oceans, capability appears not to exist for handling such a rise in standard of living. In fact, the present disparity between the developed and underdeveloped nations may be equalized as much by a decline in the developed countries as by an improvement in the underdeveloped countries.

A society with a high level of industrialization may be nonsustainable. It may be self-extinguishing if it exhausts the natural resources on which it depends. Or, if unending substitution for declining natural resources were possible, a new international strife over pollution and environmental rights might pull the average world-wide standard of living back to the level of a century ago.

From the long view of a hundred years hence, the present efforts of underdeveloped countries to industrialize may be unwise. They may now be closer to an ultimate equilibrium with the environment than are the industrialized nations. The present underdeveloped countries may be in a better condition for surviving forthcoming world-wide environmental and economic pressures than are the advanced countries. If one of the several forces strong enough to cause a collapse in world population does arise, the underdeveloped countries might suffer far less than their share of the decline because economies with less organization, integration, and specialization are probably less vulnerable to disruption.

JAY W. FORRESTER, *World Dynamics*
Cambridge Mass.: Wright-Allen Press Inc., 1971



jungle, desert, icebergs and hunger

In the context of the grave alarm issued by world demographers who foresee eventual suffocation from too many people on this earth, scientists at the Food and Agriculture Organization of the United Nations have forecast that 100 years from now the earth will be able to sustain a population of thirty-six billion people and feed them well on a diet similar to that now prevailing in North America and Western Europe, without recourse to synthetic food. This optimistic look at the year 2071 presupposes several things, none of them as far-fetched as one might believe for such a hopeful forecast.

Thinking about food in the next century has become imperative, particularly at the headquarters of a group as conscious of the world's basic problem as the FAO, whose motto is "Freedom from Hunger." Two major breakthroughs must occur in order that the earth's land resources may supply sustenance for the projected thirty-six billion people alive a century hence; first, use of desalinized sea water pumped hundreds of miles inland and lifted to considerable heights; and second, continuous cultivation of soil in the rain-forest tropics after the tree cover has been removed. Only a tenth of the land surface is presently under cultivation. It is said that one-fifth of the land is either too high or too rugged for normal cultivation. Another fifth is too arid, and yet another fifth lies under snow and ice or in permafrost and is, therefore, useless for growing food. Of the remaining two-fifths, there are millions of acres on which the growing season is too short, the rainfall excessive, or the soil too impoverished to help in the creation of food for human life. It is, therefore, in the areas of aridity, poor soil, and tropical inaccessibility that the breakthroughs for greater food supplies stand the best chance.

The latest issue of Ceres, the FAO magazine, puts it this way:

> First, we would open up for intensive arable farming some seven million square kilometers in the Amazon basin and a smaller area in equatorial Africa. Second, we would make it possible to turn the warm deserts of the world into a sea of waving green, with some twelve million square kilometers in the Sahara alone, an area almost equal to the total cultivated land in the world at present. An unlimited supply of fresh water would also make it possible to provide perennial irrigation to the existing cultivated lands, to the vast areas under permanent pasture, and to the lands now under tropical forest.

What an unlimited supply of fresh water can do to desert country is seen rather quickly in the enormously successful irrigation projects in western America. Much of the land in the fertile food valleys of California was once semidesert where the sun shone virtually every day but far too little rain fell to produce crops with any regularity. The introduction of fresh water transported to these arid areas is one of the modern botanical miracles and accounts for an amazing percentage of this country's fresh vegetables and fruits, particularly in winter months. Desalinization of sea water is relatively expensive at this time, but it is the wave of the future, no doubt about it. Imagine for a moment what would happen to the Sahara Desert if desalinized water could be pumped in hundreds of miles from the Mediterranean and the Atlantic. As the FAO points out, the Sahara by itself would, if properly serviced with a continuous fresh water supply, just about double the total cultivated land presently available.

Another possibility for supplying fresh water is to tow icebergs into harbors near cities that in future may be short of fresh water. Oceanographers believe that icebergs could be towed north from Antarctica to the Southern California coast to furnish water for the vast desert land thereabout. Antarctica alone is believed to contain more than three-quarters of the earth's entire fresh water supply, frozen at this moment but potentially available through advanced engineering techniques. The latest issue of the World Almanac says of this great potential fresh water source:

> Two scientists have estimated that if an iceberg 250 yards thick and 2,700 yards across were towed to Australia, it would provide 207 billion gallons of water–even though 70 percent of the iceberg would melt during the trip. They estimate that a seagoing tug could make the voyage for less than $1,000,000; that the fresh water obtained from the iceberg would be worth about $5,500,000, or less than a tenth of the cost of an equivalent amount of desalted sea water.

Steamy tropical jungles made into controlled year-around farmland, arid desert country artificially watered into a new Garden of Eden, icebergs towed from Antarctica to furnish irrigation for Death Valley–these are dreams, or are they? Those who deal in such matters do not appear to think so. Perhaps the world will indeed come to learn how to feed itself when it is ten times as populated and a century older. In any case, professionals in the war against human hunger say it can be done and have now given us a blueprint we would do well to read.

Editorial, *Saturday Review,*
October 23, 1971,
RICHARD L. TOBIN

alternative futures

The reactions of Albertans to the foregoing futures-forecasts may also be predicted. Collectively, they will support some, tolerate others and reject still others. Individually, there will be widespread disagreement about which forecasts are to be supported, tolerated or rejected. These differences in acceptability, when coupled with the divergent nature of many of the forecasts, dramatically demonstrate the need for Albertans to reason together toward a vision of the good life in the province. Our relatively narrow provincial concern must, however, be balanced by both a national and international perspective. Such broader perspectives are to be found, for example, in the two excerpts on the preceding pages. The implications of these contrasting forecasts dare not be ignored by Albertans; for our future is inextricably intertwined. with that of the world community. The impact of continued growth, whether it occurs in North America or in Asia affects all mankind.

What, then, are the alternatives open to us? Since we cannot know the future–but do have some freedom of choice in affecting the future–we can most profitably speak not of a predicted future, but a number of plausible alternative futures. For example, if the level of dissidence and rebellious activity rises, and with it the level of counteractive repression, it is conceivable that we might move toward a police or garrison state by the last decade of the century. On the other hand, if society were to alter drastically its values so as to place priority on the fulfillment of human potential and aspirations, we may as easily have reached a person-centred society by 1990. However, the actual future of our society may not be a straight-line path to either of these extreme possibilities, but rather an intermediate form which might be termed the second-phase industrial society.

Since it is inconceivable that Albertans would knowingly support the development of a garrison state, this alternative can be rejected–but guarded against. The other two alternatives, the second-phase industrial society and the person-centred society, warrant description and comparison in order to highlight the possibilities and issues involved in choosing our future. In both forecasts it is assumed that certain major trends and developments are here to stay, at least for the near future. For example, a high and advancing level of technology, a high level of economic growth, and the continuing conduct of most activities by large-scale centralized organizations is seen for both types of society.

What, then, are the essential differences between these two societies? The analysis which follows borrows heavily from the work of Willis Harmon. In part, it illustrates that differences between the two can be traced to the ends for which they exist. A comparison of characteristics common to each appears in Figure 1 on page 31.

the second-phase industrial society

This first alternative implies a relatively continuous transition from the first-phase industrial society—which has so far lasted from the industrial revolution to the present—to a second-phase industrial society. A casual observation of this society finds much of benefit to mankind. It will be a future rich in goods and services, increased consumption, technological advances and efficient use of resources toward these ends. Increased leisure will have become a reality for all but those at the managerial or technological forefront. In this society, nuclear power, automated factories, new transportation systems, household services based on small computers and elaborate communication services will be part of the individual's daily life.

Schools in the form we have known them will practically disappear. Education will take place via combined systems of machines and human assistants located in neighborhood resource centres. The grading of students, the provision of credentials and training for specific vocational skills will continue to be important.

The central or most dominant feature of this society will be its institutions. They will be seen as a method for organizing resources in the most efficient manner. This is likely to give rise to the growth and concentration of power in a bureaucratic and knowledge-based elite. A highly professional and intellectual class, this elite will comprise a network linking widespread government, higher education, research, financial, commercial and industrial organizations. Highly centralized and intensive social control will be wielded over vocational training, worker mobility, worker attitudes and consumer habits. In effect, individual needs and wants will be seen as less important than technological and economic requirements.

The emphasis on technological and economic requirements will be accompanied by problems of industrial pollution, poisoning by agrichemicals, encroachment on privacy, traffic congestion and other urban problems. But these problems may be solved as technological achievements advance.

Present day social problems are expected to continue. Poverty will have been combated to some degree, but tensions between opposing groups in society will intensify. As social unrest increases, so will the use of enforced law. Urban centres will allocate larger amounts of their resources to social control, law enforcement and crime fighting. While some success is anticipated, widespread resentment and discontent will prevail.

the person-centred society

The second alternative, the person-centred society, assumes a significant break with past trends. It views our present time as a transition period to a society dramatically different from the present, both in institutional forms and in institutionalized values. The shift in values would be in the direction of a more person-centred culture.

Central to this culture is a belief that the needs and rights of the individual take precedence. While most activities will be conducted by large organizations, power in the managerial structure will flow both ways. This sharing of power among different levels and groups can be seen as resulting in an increased awareness of, and a sensitivity to, human requirements.

The goals of the society include making economic growth meet human needs, achieving advances in knowledge and aesthetics and controlling social problems so that individuals may progress toward their own goals of self-fulfillment. The industrial system is subservient to, and responsible for serving these larger purposes of the society. The over-arching goal is the cultivation and enrichment of all human beings.

The high level of economic growth in the person-centred society is used to support the belief that each individual is entitled to live in dignity. Economic security will not be achieved solely by welfare payments or guaranteed incomes; it will be accomplished by extending the principle of free goods and services provided at the present time—such as library services, fire and police protection, elementary and secondary education—to other services such as re-education for a new occupation, food staples and urban transportation.

Law enforcement will be considerably altered as humanistic approaches are emphasized. This will result in an easing of tension between police agencies and the general public.

Education will centre on developing self-learning habits and skills, problem solving and decision-making ability, individuality, self-understanding and sound-valuing capabilities. It will be designed to foster feelings of safety and trust, and to promote freedom to explore and inquire. Neighborhood resource centres will replace schools in much the same manner as would be evidenced in the second-phase industrial society.

a choice of values

We are rapidly approaching a point of critical choice in our movement toward the person-centred society or the second-phase industrial society. This choice, when finally made, will not necessarily be the result of a major decision by any one agency or group in society. Rather, it will grow from a number of decisions made more or less simultaneously by different societal elements. In fact, through a multiplicity of decisions now being made by various groups in society, our future is being decided. But it is now essentially an unconscious choice, a blind, incoherent, sometimes capricious choice. And that is suicidal.

A choice of futures involves the deliberate selection of a set of dominant values and beliefs that direct the activities of society and the lives of its members. Our first alternative, the second-phase industrial society, assumes that the dominant values of the years ahead will be more or less the same as they are now. Our second alternative involves a rapid and dramatic shift in values.

All of the previously presented forecasts testify to mounting pressure for a change in values. These forecasts also indicate that the values of our society are in transition and that at least two sets of values are interacting to generate the future. Some of the implications of these two sets of values are given in Figure 2 on page 32. This illustration suggests the kinds of value choices involved in choosing either alternative future. Traditional values are shown as being congenial to the second-phase industrial society, while humanist values are suggested as central to the person-centred society.

Both types of society assume that most activities (i.e., education, legal and social functions, economic and political affairs) will continue to be carried out by large-scale centralized organizations. However, traditional values, congenial to the second-phase industrial society, favor a highly bureaucratic organizational structure. Such values are based on a hierarchy of authority and communication, clearly specified roles and many rules to guide daily activity. Conversely, the person-centred society's humanist values support a more flexible structure, which better enables the organization to recognize, adjust and adapt to changing conditions. There would also be more emphasis on a two-way flow of communication between superior and subordinate, creating a greater emphasis on participation in decision-making by those at lower levels in the organization.

Figure 1
Two Alternative Futures;
Their Characteristics

Features	Characteristics	
	Second-Phase Industrial Society	Person-Centred Society
Central Values and Goals	dominance of economic values which lead to goals such as continuing expansion of goods, increased consumption which subordinates individual needs to the requirements of industry and technology	dominance of person-centred values which emphasize the goals of individual fulfillment and subordination of industrial system to human needs
Economic Activity	high level of economic growth–distribution of goods and services based on price system	high level of economic growth–distribution based on human needs and provision of economic security
Technology	high level of technology which is used to further requirements of industry	high level of technology which is influenced and directed by human and global needs
Decision-Making Structures	concentration of power in a highly professional and intellectual elite which form a network linking all major agencies and organizations in society	emphasis on participation with more sharing of power and decision-making among different levels in society
Work and Leisure	maintenance of the distinction between work and leisure with more leisure for all except those in important technical and managerial positions	more leisure time and a blurring of distinctions between work, leisure, and education
Education	continued segregation of the education system from the mainstream of society	centrality of education in society as it becomes a lifelong process and as the occupation of the student becomes a valid one
	strong reliance on behavior control and behavior-shaping approaches to education	utilization of new approaches to education which emphasize the development of self-learning skills in the person and creation of conditions which foster spontaneous learning
	acquisition of specific vocational skills, continuation of the importance of grading and provision of credentials	more diversity in educational pursuits together with less emphasis on grading, credentials
Social Problems	continuation of current problems of alienation, social unrest and conflict between groups in society	increased efforts to solve social problems and greater response to human needs will lead to a decrease in social problems
Law Enforcement	increased control over overt expressions of social unrest and conflict accompanied by widespread resistance to law enforcement in society	more equal and humane treatment of citizens by law enforcement agencies will help decrease social tensions.

Figure 2
Two Alternative Futures;
Their Implications

Foundations	Implications	
	Second-Phase Industrial Society	Person-Centred Society
The Individual		
Governing values	self-control and self-discipline	self-discovery and self-expression
	self-advancement	service to others
	conformity	individualism
	puritanism	sensualism
	emphasis on narrow interests	emphasis on wide interests
	endurance of stress	capacity for joy
Life goals	acquirement	self-fulfillment
Society		
Values underlying the structure of society	hierarchical structure and authoritarian relationships	flexible structures that promote equal relationships
	work orientation	leisure orientation
	independence	interdependence
Values governing the conduct of activity	competition	cooperation
	education for work	education for living
	authoritarian decision-making	participation-involvement
Values governing the external relations of society	parochialism	global village concept
Dominant goals	economic and technological advance	humanism, fulfillment of the individual
Time perspective	tradition oriented	future-oriented experimentation
Formal Organizations		
Goals	separate	linked
Values underlying organizational structure	bureaucratic forms	flexible forms
Values governing organizational relations	competitive relations	collaborative relations
Organizational strategies	responsive to crisis	anticipative of crisis
	specific measures	comprehensive measures
	requiring consent	requiring participation
	short planning horizon	long planning horizon
	standardized administration	innovative administration
	separate services	coordinated services
Values regarding resources	resources regarded as owned exclusively	resources regarded also as belonging to society

the central question

Although traditional values clearly dominate our society at the present time, humanist values appear to be gathering strength. This suggests the existence of a force for change in the direction of the person-centred society. Whether this force becomes dominant or a passing fad is a key uncertainty of the future.

The central question involved in a choice between our alternative futures is this: will the traditional values and beliefs that have brought us to the present point of technological and economic development continue to work in the decades ahead?

The evidence is mounting that these traditional values are not serving us well. Economic disparities, inequality of opportunity, unemployment, crime, serious threats to the environment, social unrest, alienation, powerlessness of the individual and loss of a sense of community are already facts of life. These and other problems forecast earlier in this section will become more severe in the future, and there is good reason to assume that they will not be solved within the context of present values. Along with other social ills they can, in large part, be attributed to traditional values which emphasize economic goals and technological advance without regard for their costs and consequences to the individual, society and the environment.

The consequences of society continuing to develop along present trends are already seen by many Albertans as suggesting a need for altered values. This became very clear during public involvement activities of the Commission. Though there was little discernable consensus among various individuals and groups as to the success we are likely to have in solving the perplexing problems ahead, almost all acknowledged their seriousness. A significant body of professional and scholarly opinion also supports the proposition that new technological remedies are not adequate treatment for technologically created problems; that changes in values are essential if these are to be solved. *For what shall it profit a man, if he gain the whole world, and lose his own soul?*

Thus, it can be argued that the realization of a second-phase industrial society is undesirable, if not self-destructive, since it is directed by values that do not appear workable. Any criticism of it must include the argument that such a society does not serve human needs and wants. Individuals in this type of society spend their lives furthering the goals of continuing expansion of goods and services, increased levels of consumption and technological advance. Human needs and wants rate lower than the needs of the industrial system. Therefore, they must conform to the requirements of that system. Government policies, the educational system and conventional morals and values are all, accordingly, molded to fit the requirements of industry and technology.

In a second-phase industrial society the need is recognized to abolish poverty, change conditions underlying various social problems, and provide the poor minority with adequate education and equal opportunity. But it is considered uneconomical for private capital to do this and effective government action is thwarted by paralysis induced by conflicting interests. Even though people need contact with nature and beauty, it is deemed uneconomical to design a humane environment or to provide money for aesthetics. Although the channels of mass communication offer a great potential for public enlightenment, they are used mainly to promote sales and develop a favorable image for business and government interests. Somehow the society is not serving the interests of the individuals who make it up.

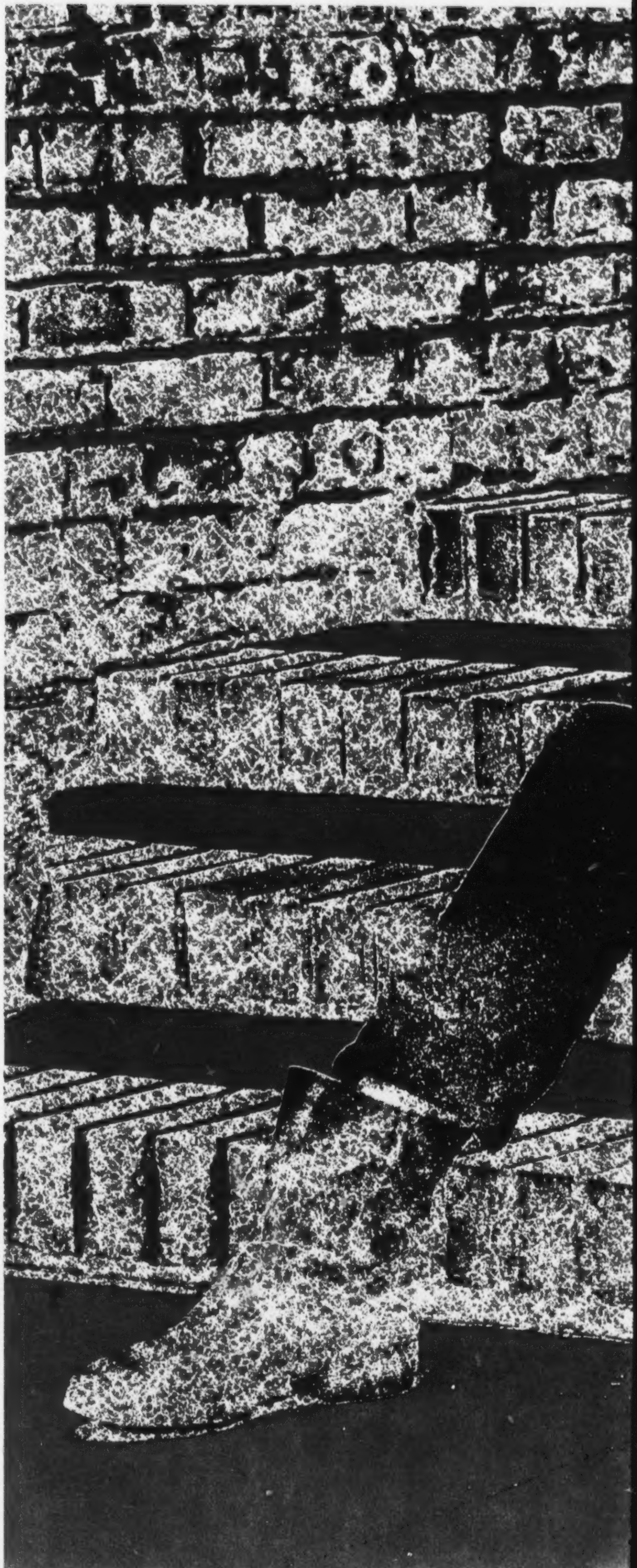
Not only does the second-phase industrial society fail to serve the interests of the individuals who make it up, it also may be unable to deal adequately with our present heritage of problems. In fact, new values and goals seem necessary and inevitable if we are to muster the will to solve the problems created by industrial and technological development.

The person-centred society does not require a rejection of economic growth, a high standard of living or advances in technology. It does require that technology and industrial development be turned to the service of human needs and wants. In order for this to occur the dominant values of society must change.

Conversion to the person-centred society will necessitate basic shifts in current ways of thought and action. Its support of the deliberate expression and fulfillment of human potential will require a different approach from that which is aimed at controlling and exploiting natural forces. The whole picture of human and technological development on which the present organization of Alberta and all Western society is based will have to be reconsidered. Moreover, to achieve improvements in the long run we may, in the immediate future, have to adopt policies that make life a little more spartan.

The vision of this new society can be realized. Whether or not it is realized depends upon the transformation of values. But a set of values is based, in turn, on a conception of the nature of man, his real potentials and the possibilities for their realization. Thus, the choice between the two alternative futures described previously is also a choice between two images of man.

Our future system of education must be designed to help Albertans make the choice.



a sense of direction

Most of us share the belief that a better life results from better education. Our confidence in this view has resulted in the continuing improvement of Alberta's schools. We have created an educational system that has been able to help us live better. But it cannot continue to do so. Rapidly disappearing is the kind of life and world it was designed to serve. Consequently, our institutions for schooling are being left stranded in obsolescence and functioning more from habit than conviction. While the world of futures-forecasts speeds toward them, they remain anchored to the past and present.

No blame can be laid for this situation. Its causes lie in the fact of change, the pace of which has reached incredible proportions in recent years. The technology which has spun man about the moon has also set society spinning. Evidence of this surrounds us: the plight of the poor and the restlessness of youth; the fluctuation of our economy and the destruction of our environment; the expansion of our cities and the deterioration of community life; and the mounting incidence of mental illness, crime and drug abuse.

Many are afraid. They see in future changes personal implications over which they have no influence.

Yet no one need fear the future. Because for the first time in history our society has the awareness and the technologic means needed to control change and to choose our destiny. But we do need to act on this potential–and to act quickly. Not to do so would be to forfeit our key to a better life in the years ahead.

One place to begin is with our educational system. Its efforts must be more clearly defined and its resources concentrated at the points of greatest effect. Recognition of this need should impel us toward a different conception or vision of education. This vision must both reflect and contribute to larger vision of the quality of life itself.

The alternative for our society and its educational system i capitulation to chaos: an admission that no sense can be made of what is, or will be, happening. The consequence is the triumph of ignorance through the application of yesterday's solutions to tomorrow's problems, and the dissipation of resources through incoherent half-measures. The resultin legacy for the 21st century will be people prepared for a life that no longer exists.

What is to be our vision for education in Alberta? How is it to be achieved? By and for whom?

The function of the Commission on Educational Planning to help Albertans answer these imperative questions. And to incite them to act accordingly. The catalyst offered as a mean of generating this activity encompasses four basic ideals:

- **a *futures-perspective* that embodies the belief that we must alter the time-bias in education toward the future;**
- ***life-long learning,* a commitment to extend education on a continuing, though intermittent, basis throughout the lifetime of each citizen, according to individual needs and desires;**
- **faith in *participatory planning* to harness the resources and will of Albertans so that the difficulties inherent in this educational transition may be surmounted;**
- **development of socially sensitive, *autonomous individuals* and unequivocal support for their right to exist in an environment that will encourage personal growth to the fullest extent of their capabilities.**

futures-perspective

Belief in a futures-perspective is basic to a new vision of education. A futures-perspective suggests a turning of our thoughts toward tomorrow, serving to underline our need to emphasize lifelong learning, participatory planning, and the development of socially sensitive autonomous individuals.

The immediate need for a futures-perspective was outlined by Alvin Toffler in *Future Shock.* He observes that every society has its own characteristic attitude toward the past, present and future. This time-bias, formed in response to the nature and rate of change, is seen as a powerful determiner of social behaviour. It is clearly reflected in the way the society prepares its young for adulthood. We must understand this and adjust our own time-bias forward. One way to begin this adjustment is to consider a phrase accepted by many of today's youth: today is the first day of the rest of your life.

There is also a need to understand that, during periods of flux, conflicts usually occur between those who support past and present concepts of education. This was reflected in Alberta a few decades ago in the bitter debate surrounding the enterprise approach. It was a time when traditionalists and progressives could agree only to disagree. Since then we have evolved to an age of ever-accelerating change. Education in the future tense must now prevail in order to avoid future shock: that dizzying disorientation brought on by the premature arrival of the future.

This futures-perspective must involve every aspect of the educational system but particularly the curriculum. The dominant characteristic of institutions for schooling must become their ability to respond to the unknown we can expect tomorrow. They must develop a capacity for self-renewal.

The future is a special world of imagination, conjecture and speculation. Our inability to speak of it with precision and certainty is no excuse for silence. Silence simply allows the future to assume a shape by inadvertence. It helps initiate a society without control over change: a society with both its future and its schools out of control.

We have been colonized by the past. Surely our lesson is that we must not constrain the future. Our task is to open it –to increase each individual's adaptability by helping him discern the pattern of future events so that he may reach out and humanize distant tomorrows. This is a gift due from the present to future generations. We owe it to ourselves, our children and their children.

In pursuit of a futures-perspective Albertans can be guided by three assumptions. First, that since the future is likely to be shaped to a considerable extent by the past and present, much of what is current in educational thought ought to be relevant to the future. Second, because the future is also likely to differ in important ways from the past and present, new thinking is required to keep education in tune with the impending future. And, third, that the future will fulfill many of our present aspirations.

lifelong learning

Greatly increased educational opportunities over a longer time span are essential, both to keep pace with change and to maximize development of the individual. Today, lifelong learning is primarily a matter of individual choice or occupational necessity. Tomorrow, it must be an experience available to all.

Lifelong learning is more crucial than mere additions to existing programs. It involves a totally revised concept of studentship-one which dissociates the term student from any particular age range. It rejects the equation of studentship with deferment—preparation, memorization, submission—in favor of realization, or active learning-inquiring, exploring, living. It deliberately blurs dividing lines and provides for a merging of early, basic, higher and further education. Thus, it contributes to the continuity and satisfactions of living and learning.

By offering formal learning opportunities on an intermittent or recurrent basis over a lifetime, the threat of economic and social obsolescence, with all the associated welfare problems, is reduced. Similarly, much of the current frustration among the young, arising from their protracted period of semi-isolation from social reality, can be alleviated within a work-study framework offering greater interaction with other age groups. Opportunities for self-selection in learning will increase as education becomes a recurring part of our life-style. And the distinction between teacher and learner will tend to fall away as most people become both learners and teachers throughout life.

The notion of lifelong learning is not a new phenomenon in history. The Athenians created a learning society in ancient times. Centuries later, Comenius reiterated the ideal of continuous education for all human life. And, more recently, UNESCO endorsed lifelong learning as the animating principle of the whole process of education.

What is new is the fact that the modern world, with its constant and rapid changes, cannot endure without continuous learning. The expansion of knowledge will alter both educational and vocational requirements at a pace few of us can yet imagine. This development, coupled with the impact of automation and the probable increase in leisure time, poses serious problems for the economically deprived and native peoples who are the victims of the vicious cycle of poverty.

The more educated a society becomes, the less able to function are the undereducated in that society. They will fall further behind, not only in a relative sense, but in an absolute sense; their plight worsened by the general educational and occupational progress of the majority. Although they remain a part of our society and our economy, they cannot fully participate. The outcome is alienation of the individual, class unemployment and higher health, penal and welfare costs to society.

Therefore, educational planning must take lifelong learning as a basic assumption. Through the process of recurrent education, learning must become a chosen way of life and not merely occupy a specific period of a lifetime.

Lifelong learning, however, must be something more than an undertaking intended to maintain or advance one's personal position on the socio-economic scale. Its purpose is total personal development. It seeks to make every individual truly a person and a full citizen of our society-a partner in the benefits of life in Alberta.

Linked to political change, this approach to education could gradually enlarge the scope of personal freedom. It would increase the sense and reality of self-fulfillment for an unprecedented number of citizens and give greater meaning to equality by making knowledge the basis for it. The eventual outcome would be a more socially creative and individually satisfying society.

participatory planning

The need to diversify our social vision, without fragmenting it, requires the involvement of a concerned society. Key roles await students and parents, elected officials and community workers, business people, trustees and taxpayers, teachers and administrators, and communications personnel. All must be alerted to the problems and opportunities of an educational system oriented toward Alberta's future.

This necessary involvement is more likely to occur in a system where effective central coordination is combined with decentralized control.

People must be more than mere clients of the educational system. They must share in determining it. If education truly is to benefit society, it must draw on all of society's strengths. Expertise, then, can be mobilized without granting educators and bureaucrats dominating roles because of their special credentials or strategic positions.

The rate of change in modern-day society necessitates a concurrent human adaptability to change. Contemporary discussions on education are crowded with statements to this effect. We often tend to forget that effective use of any ability for adapting must be accompanied by individual desire to adapt. People must be motivated. They must understand, and want to enjoy, the benefits of adaptation. This motivation can best be aroused by the feeling that changes are being controlled or at least influenced by those affected. Therefore, a major concern of education is not only to train for adaptability but to train the individual to master changes that affect his own situation. Too often we set out with noble goals of doing things for people but fail to equip and encourage them to act for the improvement of their own lives.

The reshaping of Alberta's educational system must seek to involve all of our citizens. The magnitude of the task ahead makes it clear that there will be more than enough for everyone to do. Thus, it is imperative that we provide new structures and new methods as well as help, encouragement and freedom for all to do the best they can. We must release and apply our potential. This is the way mankind has progressed in the past—it is the most promising road for education in the future.

autonomous individuals

Realization of a futures-perspective, lifelong learning and participatory planning begins with the acceptance of these ideals by the individual. This is in keeping with our social system which has traditionally rewarded individual effort and achievement. Basic to this tradition is the development of self-direction and self-determination.

Persons who are self-directing and self-determining are the normal result of an education that is moral as well as intellectual and aesthetic. This is not to say that education should be moralistic: there is a vast difference between moral ideas and ideas about morality. Ideas about morality are those pieties we acknowledge but do not always act upon. Moral ideas become a part of us; they affect and improve our conduct.

An education that is moral as well as intellectual and aesthetic will not downgrade the importance of disciplined, intellectual effort. Nor will it deny the need to give the arts a central place. What it does mean is a new emphasis on increased self-direction in learning and an open spirit of inquiry at all ages and levels, so as not to compromise opportunity for self-determination in matters of value judgment.

This is not a revolutionary idea.

The autonomy of the individual, his incomparable worth, his right to self-determination are crucial to our democratic traditions. What is revolutionary is to propose that we deliberately seek to develop an entire citizenry educated to feel and act as well as think; individuals committed to the concept of full personal responsibility; individuals who feel that to be true to themselves they must respond with themselves; individuals educated to courage.

Nurturing of autonomous individuals does not imply the selfish gratification of one's own desires at the expense of others. The sum of such individual interests simply adds up to the disadvantage of all. It does imply that the needs of society and its individual members must be reconciled so that both may flourish. This means that through open inquiry into life itself, each of us must learn to assess and apply those conditions of human association necessary to ensure human survival and community benefit. Autonomy of the individual is more than responsibility to oneself: it is responsibility to all.

It is increasingly evident that as modern civilization loosens the ties that bind the individual to his heritage and family, it may result in greater freedom, or it may occasion alienation and loss of a sense of community. Similarly, when the individual seeks autonomy he may achieve freedom and moral responsibility, or he may achieve only aggrandisement of self, with all the accompanying disorders of inflated self-regard: cancerous pride, unrealistic self-evaluations, unfulfillable aspirations.

The mature person must achieve a considerable measure of independence to meet the standards implicit in the concept of the autonomous individual. But, at the same time, he must acknowledge the limitations of self, reconcile his individuality with his membership in society and dedicate his allegiance to values more comprehensive than just his own needs.

nature of the report

The object of this report goes beyond a discussion of ideals. Its aim is to guide and assist the restructuring of Alberta's educational system to meet changing needs. The report seeks to accomplish this through encouraging the cultivation of four ideals which the Commission has come to regard as fundamental to the success of future education in the province. These are as indicated above: a futures-perspective, lifelong learning, participatory planning and autonomous individuals. Through the diligent pursuit of these ideals, the Commission believes that education could be transformed on two levels simultaneously: a level of short-run adaptation and revision, and a longer-range concern that ends in the transformation of the system. This adaptation, revision and transformation of education will require an outlook of optimism and a willingness to act upon devotion to mankind.

Accordingly, this report urges the development of a vision for education that is realistically idealistic. It calls for a vision that involves an interplay of ideal goals and practical steps, not a tinkering combination of pedestrian prescriptions and dogmatic solutions—it wants to ensure that those who celebrate Alberta's centennial have had A CHOICE OF FUTURES and A FUTURE OF CHOICES.

purpose

In accordance with the Commission's mandate, the report has four specific purposes:

- **to propose adaptations and changes in policy for all levels and forms of education to meet future needs;**
- **to indicate bases for priority judgments during the next decade;**
- **to suggest continuing structures and processes for the planning, coordination and administration of the total educational organization;**
- **to stimulate participatory and anticipatory planning for further education.**

scope

The report has been prepared in harmony with the three premises or beliefs that served to guide the efforts of the Commission since its inception:

- **emphasis upon broad concepts or principles to serve as guidelines for development:**
- **recognition that those involved in the system must have the freedom, authority and responsibility for detailed implementation or application;**
- **awareness that the work of the Commission is merely the forerunner of permanent structures and processes for long-range educational planning throughout the province.**

limitations

Since it focuses on an activity as controversial, as complex and as pervasive as education, this report is, at best, only a partial response to the need for continuing, comprehensive study. Yet it is still much too ambitious. It unavoidably touches many issues vital to the human quest without significantly sharpening our perception of them. However, it does try to put forward the best possible case for education. It remains for the people of the province, through their elected representatives, to determine where education should be in our system of priorities.

The report is not a recipe book. Its object is not to develop systematically a coherent series of prescriptions and programs to remedy current ills or to solve future problems. Rather, it is a vehicle for proposing some general directions toward which Alberta's educational system should move. In so doing, it endeavors to concentrate on those policies and actions that will perhaps be decisive and that will truly make a difference.

Any attempt to create major alterations within our educational system must consider the human problems created by change. The potential extent of these problems becomes clear when it is realized that education has become Alberta's largest enterprise. It includes over 500,000 students, taught by about 40,000 persons, supported by about 30,000 service personnel. In other words, of all the men, women and children in Alberta, one in three is currently and directly involved in formal education at some level in one capacity or another. Thus, sudden or major changes in organization and procedures could produce serious disorientation and demoralization of large numbers of people.

A further limitation is imposed by the practical possibility of re-orienting and re-training instructional and administrative staff in sufficient numbers and with sufficient speed to accomplish any major change in purpose or process.

In addition, the credential purpose of schooling is paramount for many people at this time. Although many believe that this purpose should be a secondary concern of education, entitlement to credentials must be maintained, at least in the initial stage of change. And credits and qualifications must be transferable from our present system to any new one that may be created. Also, there is a need to maintain some general equivalence of credentials among the provinces. It must be remembered that no factor which is a significant determinant of the educational process is confined in its operation, or in its effect, by provincial frontiers or national boundaries. Personal mobility, which is a social and economic necessity and an obvious right, is already hampered by problems of equivalence of educational standing.

Finally, tolerance of change by the public is limited. In relation to education, the level of interest is very uneven. Indeed, it often seems that there is no middle ground between apathy and passion, with the latter being most readily aroused by a proposal for significant change. Moreover, since we are dealing with an area in which emotion, ingrained belief and vested interests are important factors, it is possible that the most logical changes may prove at the outset to be the least acceptable.

These considerations seem to rule out radical reform, or at least make it extraordinarily difficult. Yet it is very doubtful whether any real change of significant proportions can be accomplished by gradual modification. Therefore, the dilemma of reform is an agonizing one. To attempt gradual change may be to try to cross an ever-widening chasm by a series of short steps. But, considering the practicability of attempting a great leap and the terrible cost of serious failure, resolve must falter. Reconciliation of these two counter-forces is possible only if radical transformation builds upon and modifies the vast and complex human, material and psychic investment in the existing educational system. To do otherwise would be to invite educational anarchy as well as social and economic disaster. On the other hand, we dare not delay invention nor the casting aside of the archaic. Time lost is irretrievable.

guiding principles

It is easy to assent to the ideals of a futures-perspective, lifelong learning, participatory planning and autonomous individuals as abstract propositions, and to adopt them as pious slogans. It is more difficult to foresee what would be the consequences of putting them into practice in Alberta. This report seeks to provide a partial indication of what might be required if we were to practice what we preach. It does so in accordance with those principles or characteristics of a desirable educational system which many Albertans, through their written submissions and participation in public hearings, conferences, seminars, meetings and consultations, have indicated a willingness to support. These ten principles may be stated as follows:

Adaptability
The educational system should be able to respond easily and quickly to new circumstances.

Context
Educational experiences should be seen to be relevant to both current realities and future probabilities.

Coordination
Various aspects of the educational enterprise should function in harmony with each other and with other sectors or activities of society.

Diversity
Variation in educational experiences and organization should be encouraged.

Efficiency
The educational system should achieve maximum effect with minimum effort and expense.

Equity
Education should be available on a just and fair basis with equality of output or similarity in achievement and effect.

Participation
All those affected should share in the determination of policy for education.

Personalization
Activities in education should be related to the needs, aspirations and rights of the individual.

Quality
The educational system should strive for excellence in everything that is undertaken.

Unity
Education should develop those behaviors that facilitate human communication and social integration necessary for collective action to sustain personal growth.

These principles must be compatible, both with our ideals and our goals. Viewed together, these three elements can help us sense and articulate a vision for education in the future. Four basic ideals have previously been discussed. An elaboration of goals follows.

goals

The core of the Alberta educational system is currently comprised of over 1300 elementary and secondary schools, three agricultural and vocational colleges, two technical institutes, six community colleges and four universities. In addition, there are a number of special-purpose institutions like the School for the Deaf, the Forest Technology School and prison schools, many vocational training and apprenticeship centres, almost 20 schools for the preparation of health sciences personnel, over 40 proprietary or registered trade schools, a variety of private institutions (including five colleges and over 250 kindergarten-nursery schools) plus a vast array of other agencies offering formal instruction—such as libraries, professional associations, museum and art centres, municipal parks and recreation departments, trade associations, the YMCA and the YWCA, community leagues and youth centres.

Yet the schooling that goes on within this framework is still a narrower process than the more general phenomena of education, which can be as broad as life itself. Both schooling and education are collective and programmed activities, using as their dynamic the process of individual growth known as learning.

Schooling has been influenced by a kind of residual theory. According to this theory, our educational system ought to do those things that other institutions, like the home and the church, are unable to do or have relinquished. The justification for enlarging the scope of the school's effort has related to its universality and potential effectiveness as a means of socialization. Preparing persons to fit into our society and stimulating their interest in movement up the socio-economic ladder have become central goals of our educational system. Hence, schooling has been not a cause of society but a consequence of society. That is, it has been a social process by means of which the human community has sought to transmit to succeeding generations those traditional aspects of culture considered fundamental and vital for its own stability and survival.

In the future, these tendencies are likely to be modified or changed. Such modification will be in response to the forecasts outlined in the previous section, coupled with some restoration of institutional and professional humility. Specific institutions at all levels in our educational system, and the levels themselves, will tend to concentrate their efforts more toward the achievement of excellence.

Greater attention will be given to efforts intended to anticipate change. This emphasis will be complementary to three other important influences in each person's life: the mass media, religious experiences and the family unit. The nature and function of these influences may often conflict. Reduction of this conflict will be contingent upon the emergence of values, goals and roles that find some measure of accord within the total community.

The scope of the total educational enterprise, embracing a variety of institutions, agencies and resources, will grow until it permeates the entire social fabric. The intent will be socially responsible individualization that helps set loose the creativity, inventiveness and uniqueness of all individuals throughout their lives. Eventually, individualization should return to society the increments due from its support. Such increments ought to accrue to the welfare of society itself.

As this shift in scope and emphasis is undertaken, it will be increasingly more difficult for institutions at all levels of education to be isolated from the activities and problems of the larger society. The traditional boundaries of educational institutions will be extended so that the concerns and resources of the total community are available to teachers and students for learning experiences. Involvement in the basic value questions and problems of our society will almost automatically accompany the new emphasis relating to school and community. This involvement will not be limited to a rather sterile, academic examination of issues. It will proceed to the point of overt pressure and action designed to produce desired and necessary changes. And while institutions themselves cannot proclaim answers to controversial issues without jeopardizing academic freedom, they can and must provide an environment wherein teachers and students are enabled to pursue activities in accordance with their emerging convictions.

general goals

The general goals for education in Canada, and for many other countries, have an enduring quality. Alberta is no exception. The original goals formulated for the educational process when the province was founded in 1905 have persisted to the present. Major alterations sometimes appear to have taken place in response to changing circumstances but, in fact, the basic goals for education in Alberta have remained relatively constant. They have simply been broadened on the basis of precedent with a few minor fluctuations in emphasis. These differences in emphasis become most apparent when attempts are made to assign priorities. It is, therefore, not surprising that an opinion poll taken in this province in 1959, verified in part by a similar poll in 1969, showed that there was little consensus concerning the importance to be assigned to various tasks in public education.

It is obvious that many valuable goals already are being pursued actively. Accordingly, the statement of general goals that follows should be seen as an extension of that which is good from the past. It recognizes those elements which, by their very survival, have demonstrated their importance in the quest for human happiness. Continuity in goals is a valuable safeguard against faddish errors of judgment.

Since tomorrow will be substantially different from yesterday and today, it is also imperative that a futures-perspective be maintained when defining goals for education. Only in this way can new elements be injected that will aid us in shaping our own destiny in a period of accelerating change.

Our educational system must be directed toward the creation of the kind of milieu in which individuals will experience success. We must use the opportunities associated with a future of choices in a way comparable with the success achieved in developing the first-phase industrial society. Although the new directions in which mankind must move are not yet fully defined, there is a common theme evident in our strivings–a search for new and more satisfying human relationships. The following general goals are intended to guide us in this search.

personal autonomy

To nurture growth toward self-hood and individual freedom

A future in which values, regulatory systems and living habits will be constantly analyzed and revised will place severe strains on individuals. In particular, this will affect the capacity for decision-making. Unless individuals are able to achieve a measure of personal stability under such conditions, they will become increasingly demoralized and subject to serious emotional and physical disorders. To offset this condition, increased attention should be directed to self-development and personal integration–to understanding and living with oneself. Basic to this process is confidence in one's ability to learn and the skill and desire to do so.

social competence

To nurture the capacity for satisfying relations with others

To help individuals cope with different norms governing interpersonal relations, diversity in life-styles, overcrowding and shifting social values requires emphasis upon the skills and attitudes essential to cooperation, interaction and companionship. Learning to live with others is fundamental in forging the common bonds that hold society together. In turn, the individual benefits from an environment in which he can flourish better as a person. Thus, the discovery of self in society becomes more of a reality.

ethical discretion

To nurture the development of personal values and a social conscience

To curb the continuing deterioration of the physical and social environment, to counteract the threatened instability of the social structure and to prevent the loss of privacy, greater individual awareness of, and commitment to, values appropriate to human survival in a technetronic age should be cultivated. Similar attributes are also vital for those who, in future decades, will have to make crucial decisions about such emerging concerns as the genetic control of life, perhaps even the creation of life itself. A life of ethical and moral action is also the key to experiencing personal fulfillment.

creative capacity

To nurture the growth of broad leisure and recreational interests and skills

In the future most of us will play more and work less. Therefore, higher priority should be assigned to encouraging creative leisure interests and skills, together with the provision of appropriate means for their expression. Leisure for pleasure must be valued as an opportunity for physical, mental, cultural and emotional fulfillment. The task of education is to enlarge the range of options for such achievements throughout the individual's life span so as to make leisure an asset rather than a burden.

career proficiency

To nurture the development and maintenance of occupational competence

Participation in the world of work will remain an economic necessity for most, as well as a means of satisfaction for many. But, at the same time, the nature and form of this participation will undergo continuous, if not drastic, modification for large numbers of people. Hence, the educational system should encourage differing perspectives about work, both for evaluative and practical purposes. In the evaluative sense each individual should be given the opportunity of resolving for himself such questions as what work is, its physical and spiritual significance for him, its significance for society and its relation to leisure and recreation. Practically, provision should be made for occupational information, career counselling, try-out opportunities and skill development to ensure the right to work as one wishes.

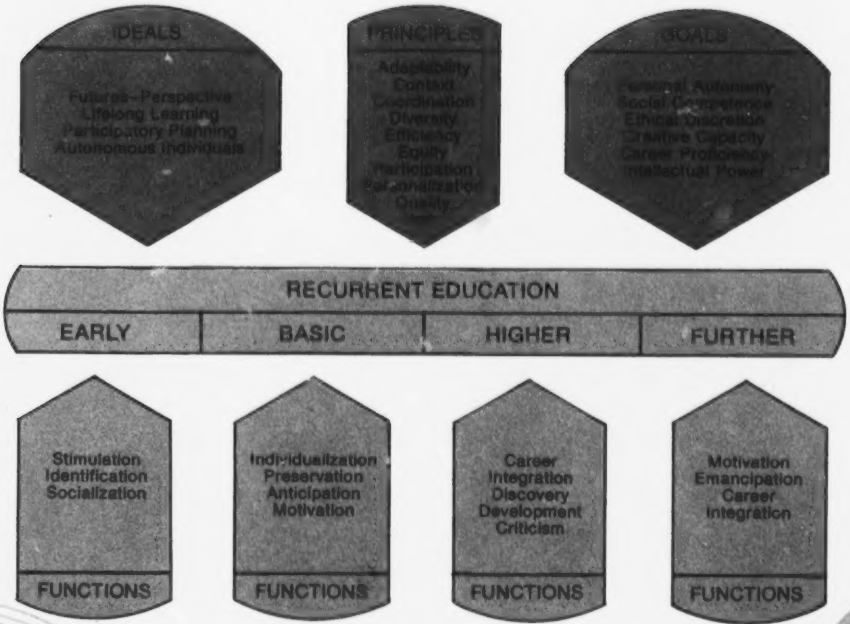
intellectual power

To nurture the use and extension of intellectual and aesthetic abilities

The continuing accumulation of knowledge, coupled with new opportunities and ways to extend our capacity to acquire that knowledge, demands greater use of all of the senses to ensure rational and humane decisions. Curiosity and concern, supported by the skills of inquiry and communication, are central to thinking, feeling and knowing. Accordingly, there is a continued need to reaffirm the intellectual, and strengthen the aesthetic components in education.

As suggested in Figure 3, a statement of general goals helps us to concentrate our attention on the application of those principles generated by our ideals. In turn, this enables us to assign specific functions to be performed by the various phases of our educational system.

Figure 3
Sense of Direction


IDEALS
Futures–Perspective
Lifelong Learning
Participatory Planning
Autonomous Individuals
PRINCIPLES
Adaptability
Context
Coordination
Diversity
Efficiency
Equity
Participation
Personalization
Quality
GOALS
Personal Autonomy
Social Competence
Ethical Discretion
Creative Capacity
Career Proficiency
Intellectual Power
RECURRENT EDUCATION
EARLY
BASIC
HIGHER
FURTHER
Stimulation
Identification
Socialization
FUNCTIONS
Individualization
Preservation
Anticipation
Motivation
FUNCTIONS
Career
Integration
Discovery
Development
Criticism
FUNCTIONS
Motivation
Emancipation
Career
Integration
FUNCTIONS

specific functions

If we are to achieve the six general goals set out previously, each level or phase of our educational system must perform a different yet interrelated function. These differences in function arise from the interaction of a number of factors, including variations in the needs, aspirations and maturity of the students, and diverse societal expectations and resource bases. This differentiation or specialization is complementary to the concept of comprehensiveness. For in our educational system comprehensiveness is required to attain a high degree of equity, and in the same sense, differentiation is necessary for improved quality.

functions of early education

For education in Alberta to become a lifelong process, schooling should begin at the earliest age at which a child may derive benefit. All young children are endowed with greater potential for imagination, creativity, innovation, reasoning and understanding than was previously supposed. Few children have this potential developed to its fullest extent, either in their homes or in other parts of their environment. From the earliest age this potential must be realized, rather than neglected or smothered. Once young children are ready to reap rewards and satisfaction from planned learning experiences, they should not be kept waiting too long for the opportunity. The principle of public responsibility for free education, which is accepted for older children, should apply to younger children as well. It is deserving of particular attention in the decades ahead.

Early education before the age of six should have three major functions: stimulation, identification and socialization.

stimulation

Opportunities should be offered for learning a variety of attitudes, skills and behaviors which will promote aesthetic, emotional, intellectual and physical development. This does not mean a downward extension of conventional schooling; rather, it means approaching each child on his terms — his language, his previous experiences, his likes and dislikes, his strengths and weaknesses, his family. In short, expression should be given to the principles of context, diversity, equity and personalization by fostering such growth. In this approach, attention should obviously be given to such matters as developing skills for dealing with information and symbols, promoting appreciation of various modes of self-expression, nurturing curiosity and the ability to think. The purpose is not readiness or academic basic training in the traditional sense but the launching of human quest for self-fulfillment. Wide-ranging exploration must take precedence over narrow preparation.

A critical factor in this quest is the individual's desire and ability to keep on learning. Early education must cultivate each child's confidence in his ability to learn by exercising his talents in situations which he recognizes as being important and which he finds enjoyable.

Early education is of particular value to the handicapped and the disadvantaged. The earlier physical, mental or emotional difficulties are identified, the greater the likelihood that effective action can be taken to overcome or compensate for them. Similarly, those children disadvantaged as a result of economic, geographic or social factors require special catch-up opportunities. Consequently, the preventive and remedial aspects of education in the very early years is an essential aspect of the stimulation function.

identification

The identification function is concerned with the child's development of an appropriate self-image which helps him discern who he is.

A child generally establishes his own identity through identifying with his parents. Later, as the young child reaches beyond the home, identity still is based primarily on his relationship with other adults. Thus, the child's self, or identity, is inextricably bound up with imagery of who parents, teachers and other adults think the child is and what they think the child ought to become. Inaccurate assessments based on ignorance, prejudice and neglect may give rise to a sense of inadequacy and inferiority at this stage in a child's life. A conscious endeavor of early education must be to help each child develop an image of himself which he finds satisfying and attractive. Only in this way can he learn to live with himself.

The relationship between an image of self-worth and personal values is very significant. Early education offers the child his first substantial opportunity to enlarge his value patterns beyond those of the home and his immediate environment. These patterns may be good or bad depending on one's view. Nonetheless, they are limited. It is educationally vital for the child to explore beyond them while his attitudes and dispositions are still flexible. Indeed, if the opportunity occurs early enough, the child has a chance to apply his own pristine valuing competence before it has been inhibited and constrained by the often selfish and rigid intervention of adults, however well-meaning they may be.

socialization

The young child can, of course, become too self-centred. He should also become aware of and sensitive to others; to learn that what others think or feel is important. At the same time, socially acceptable ways of behaving must be acquired. Thus, early education should also focus on helping children to learn to live with others.

Here, as with the performance of other functions, early education, the home and the community must be complementary to and not substitutes for each other. Whenever possible, early education should be offered within the broader context of total family education. Research has shown consistently that the various characteristics of the child's home environment, particularly parental attitudes, strongly influence his achievement in formal education. Family involvement not only enhances the child's learning but also reduces the potential for child-school, child-parent and parent-school conflicts. It is highly probable that such conflicts could intensify in the years ahead unless the trends toward fractured families and diminishing social solidarity forecast in Section I are substantially modified.

functions of basic education

The stage of basic education is the one that serves all children and youth. In the minds of most Albertans it is synonymous with Grades I to XII and, in fact, for most young people it now means 12 years of schooling intended to bring about planned changes in their behavior through primarily abstract learning. Its essential role is to deal with knowledge in the broadest sense: its conservation, extension and dissemination, and the defense and communication of certain attitudes toward it.

To contribute to the achievement of the general goals noted earlier, basic education will need to stress four major functions in an effort to help us attain and sustain a human and humane existence: individualization, preservation, anticipation and motivation.

individualization

Individualization is concerned with the full flowering of each person. In Maslow's terminology, it is self-actualization; in Biblical terminology, it is developing one's talents; in the contemporary idiom, it is being your own man.

Performance of this function requires that the student be given increasing opportunities for self-selection commensurate with each stage of his development. In other words, application of the principle of personalization.

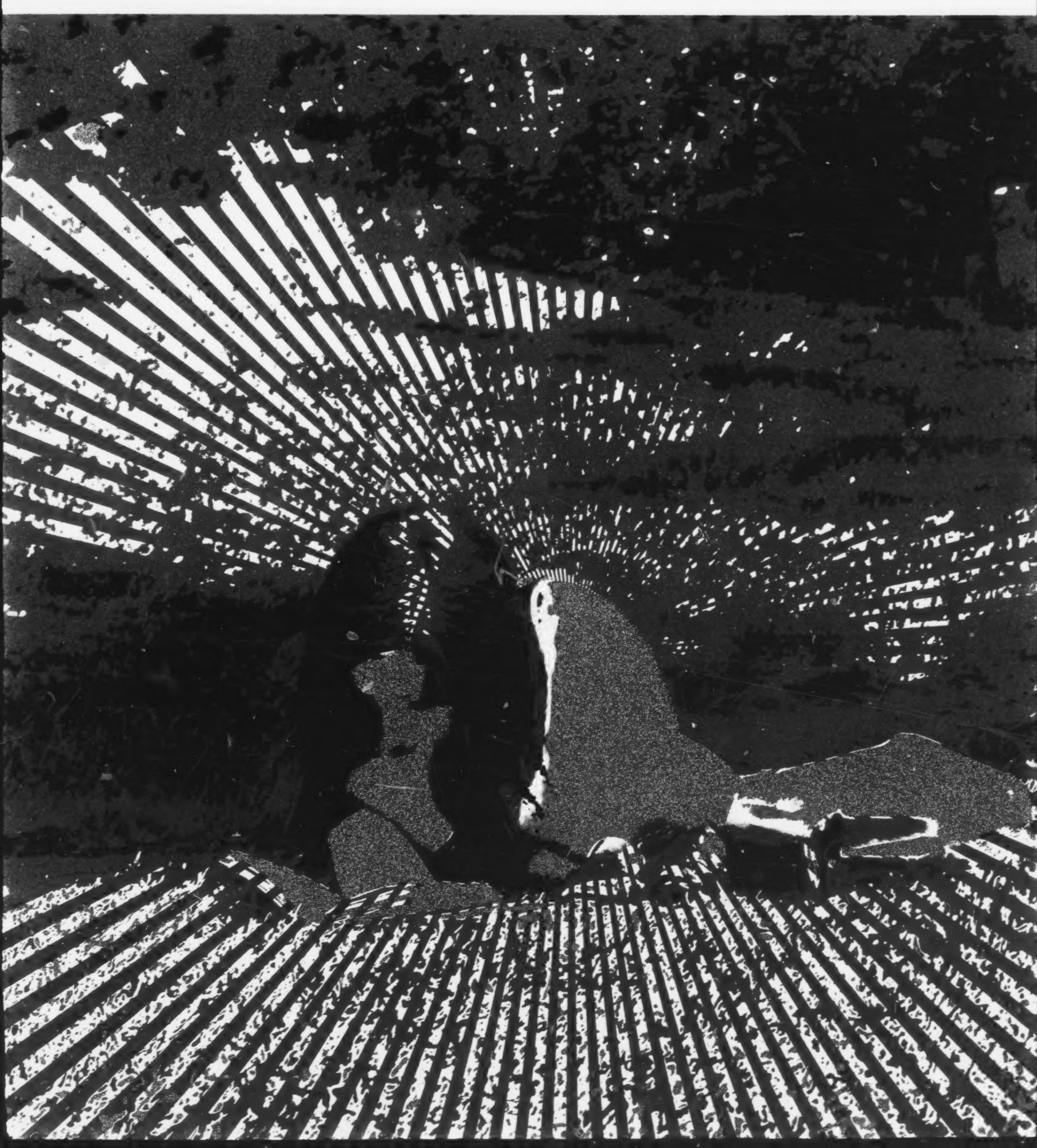
Personalization calls for an enlargement of the notion of independent learning that goes beyond altering the pace or rate of learning activities. It means enabling the student, in consultation with his parents and teachers, to decide upon much of the actual content or substance of learning and to determine the outcomes toward which his activities will proceed. Personalization also means that the student must acquire knowledge of the alternatives open to him and the bases which may be used to choose among them. Knowledge of alternatives and criteria for choice, combined with wise and judicious counsel, should in most instances ensure that essentials will not be ignored. Such knowledge and counsel should also constitute a safeguard against the danger that the student will have so much apparent freedom that he ends up actually having none.

preservation

Every society is concerned with providing a continuing social structure in which subsequent generations can live. Its schools must seek to further this ambition by helping students develop a commitment to morality.

To accomplish this, basic education ought to be conducted in a spirit of open inquiry, acknowledging the integrity of the individual and the freedom to dissent, and encouraging authentic interaction between students and teachers. Teachers must, primarily by example, convince their students that moral issues matter. Teachers will be better able to do so if they accept the impending technological culture, not as something to be smashed or escaped from, but as something to be exploited for the sake of mankind.

A vital element that must be incorporated in future education is faith in children. Mainly we have been afraid of children, just as they have been afraid of us. A switch to greater faith in children is one good way of moving toward achievement of that essential characteristic of excellence known as quality of life. Faith in children is the realization of faith in humanity; and humanity itself created the triad of goodness, beauty and truth. Given the opportunity, our children will devise standards for living that our own jaded minds could never have imagined.



anticipation

There is a target toward which each young person moves – and which tends to orient and give meaning to the pattern his life takes. This target is a conception of what that person wishes to be like at various points in the future. Where the future is hazily defined and viewed with apprehension, it is only natural that schooling, along with many other social activities and institutions, should be seen by the young as relatively meaningless. Thus, in basic education, the need for anticipation is clear and crucial: to improve the individual's ability to adapt to continual change by increasing his capacity to discern and influence the pattern of future events.

The conscious purposes of the student, as well as those of the teacher, now play an increasing part in determining the goals of society as a whole. In all likelihood, this development will have an even greater impact in the decades ahead. Basic education should rise to this challenge and opportunity by developing persons who can anticipate the future and control accelerating change.

Occupational orientation and exploration will continue to be an important part of the anticipation function at the senior levels of basic education. In a society in which the industrial and technical reality will play a very important part the individual's ability to function will be dependent upon highly complicated social structures and relationships. This development will mean that both technical-industrial and the socio-cultural studies will be imperative. And not just for some, but for all. Furthermore, it is neither prudent nor humane for schools to skirt the career issue which is of such vital concern to students. After 12 years of schooling a student should at least have some notion of what he wants to do next.

motivation

The motivation function is concerned with enhancing and maintaining each individual's urge and ability to keep learning.

As interests and careers become more diverse and knowledge continues to expand rapidly it will be extremely difficult to identify a common core of so-called essential facts. More important than a core of factual information will be involvement in experiences which result in the student achieving mastery of basic skills and strategies, being excited with learning, and becoming imbued with a desire to continue learning. These are the skills and attitudes that are essential to a life of learning which every student must carry with him when he leaves the stage of basic education.

functions of higher education

Higher education, which presently embraces colleges, institutes and universities, will be required to play a more significant role in the lives of a greater number of Albertans than it has in the past. Alberta, like the rest of Canada and other Western countries, appears to be in an intermediary and critical period between elitist and mass higher education. As the participation rate increases, these institutions undoubtedly will find it necessary to adjust to a very diversified student body. Meeting the varied needs, abilities and aspirations of their clients, while fulfilling the social and economic requirements of society, will be a demanding task.

The response to this challenge of expansion in both quantity and quality must be increasingly diversified and coordinated. Within higher education the particular role of each sector, institution and program must be clearly specified. Every institution must also assume responsibility for developing a high degree of competence and effectiveness in its role. Concurrently, there needs to be effective role coordination to avoid gaps as well as unwarranted duplication, to eliminate mutually destructive warfare between divided faculties, and to facilitate student transfer and continuity in learning. Planned differentiation in mission, size and character is the path that higher education must follow if it is to maximize its contribution to the general goals of education. This concept of planned differentiation demands that the functions of higher education be subjected to continuing re-examination.

An indispensable activity for all institutions will be the dissemination of information regarding ways in which people may meaningfully use their higher education. It is no favor to the individual to encourage him to prepare for a vocation that he will have little chance of practicing. Nor is it in the best interests of society to lack the manpower it needs. And in a time of rapid technological change within a social system that stresses maximum individual freedom and autonomy, the nudge of information and counsel seems preferable to the command of economic planning.

colleges

The colleges of the future must have parity in higher education. They ought not to be institutions with a junior partner role. Rather they should have a distinctive mission of their own which they carry out in accordance with the principle of quality. In this way, the colleges can attain their own integrity and stop conducting their affairs as though they were on the lower rungs of a status ladder.

Three functions appear to be particularly appropriate for the colleges in the years ahead: development, integration and career.

development

The development function applies both to students and to the community. With students it means fulfilling expectations and actually meeting their specific needs through the application of the principle of personalization. This will require more innovation and less imitation in policies governing admission, programming and evaluation. In the case of the community, it means providing leadership-service in the solution of special regional problems, and in the anticipation and direction of future events. Through such interaction with a much wider constituency each college also will establish its own special identity or mission.

This function would be particularly well served by emphasis upon activities designed to foster creative capacity. A pool of talent will be required for the guidance and counselling of individuals. Programs and facilities will be needed in areas like the fine arts, recreation and communications.

integration

Integration is concerned with the harmonious development of the total person in pursuit of the higher order needs of liberation and integrity. Character traits such as self-awareness, flexibility, openness, creativity, courage and the capacity to love may be viewed as prerequisites of personal integration and responsible citizenship. These derive from the general education efforts of the college. As in earlier phases in the educational system, the valuing aspect of learning must be a central part of college experience. Valuing is necessary, not only to establish or reinforce personal behavior standards, but also as a basis for active participation and influence in shaping the future of the wider community.

career

Colleges must be involved in the education of individuals for an occupational role in society. For some they must provide first-entry occupational preparation. For others they must offer opportunities for upgrading previously acquired skills and knowledge. For still others they must provide for retraining in a different occupation. Concentration on occupations in the service sector of the economy seems most appropriate in these instances.

Effective performance of the career function requires much closer liaison with the people of the region, especially potential employers. Increased opportunities for work-study programs, improved placement of graduates, more relevant instruction, and greater community acceptance of students as individuals and as consumers should result.

In addition to performing a career function slanted toward the service sector, some colleges because of location should also offer some pre-professional and pre-technical education in response to demonstrable needs and where actual or potential institutional competence exists.

technical institutes

The technical institutes in Alberta already have developed a distinctive role which will require further shifts in emphasis in response to changing conditions. Two major functions are apparent: career and integration.

career

The career function of the institutes should continue to focus on the development of specialized technical knowledge and skills. The programs offered will remain essentially practical in nature but will grow more complex. They will stress the use of knowledge over knowledge for its own sake. In this way it will be possible to prepare persons who will be readily employable and productive within a minimum period of time. Nonetheless, care must be taken to avoid narrow prescriptions that might result in occupational obsolescence and that might restrict the awareness of the student of the broader social and personal implications of the specialized role that he may be called upon to play.

Today, the institutes are almost exclusively male institutions. This probably reflects, at least in part, the traditional stereotype of the inferiority of women in the technological and scientific realms. Tomorrow the institutes must be known as places where women are helped to breach the barriers that previously have limited their economic participation and self-fulfillment.

integration

Technical institutes, like the colleges, should be concerned with the development of the total person. Thus, activities should be undertaken related to the goals of personal autonomy, social competence, ethical discretion and creative capacity in support of their career proficiency and intellectual power emphasis. Careful attention to the function of personal integration is the best way to ensure that institute graduates will not become the sleepless victims of some future technological nightmare.

universities

Because they provide both general and specialist education, universities reflect responsibilities similar in some respects to those of the colleges and institutes. At the same time, their involvement in research gives them opportunities to make some very different contributions to the larger society, as well as to the educational goals of the province. Their unique mandate finds expression in the performance of four functions: discovery, criticism, integration and career.

discovery

The discovery function relates to the search for, and dissemination of, new knowledge–in other words, research and development.

The search for knowledge goes on in all institutions for schooling, but the discovery of new knowledge usually occurs in universities. In the information-oriented, technologically-based society of the future, continued attention to research is imperative to provide an expanding reservoir of knowledge from which to draw for the innovations that will contribute solutions to practical problems and assist in directing human destiny. To complement the often fragmentary and seemingly impractical efforts of individual investigators, comprehensive inter-disciplinary research projects also must be mounted by universities for direct and sustained attacks on individual, social and economic ills. Some of these ventures should be on a collaborative basis with the private sector, perhaps within the framework of an industrial research park. Coincidentally, those who discover knowledge bear a responsibility to acquaint the public with its implications for mankind:

they are morally responsible to warn of the consequences of its misuse.

In addition, universities must disseminate information gained through research. The benefit of this activity lies in the service to the community which the universities can provide, and the opportunity it offers for feedback. Lacking such interaction, graduate education tends to become inner-directed and less responsive to the needs of society. The consequence is often serious imbalance in the supply and demand of highly skilled manpower.

The successful performance of the discovery function, when coupled with a visible concern for the welfare of students and the prudent use of funds, will surely increase the relevance of universities and take the recently-acquired tarnish from their image. The dividend will be more positive public support.

criticism

In view of the potential that the future holds for repression in response to uncertainty induced by rapid change, the function of universities as critics of society must be preserved as a major safeguard of freedom. In such a climate universities will need to exercise delicate and determined diplomacy to demonstrate their value as sources of ethical and moral leadership and outspoken appraisers of technological, economic, social and political change. Only by convincing the public that universities are working in the interests of society, and not simply for themselves, can they hope to be immune from crippling restraints in the years ahead.

Institutional neutrality is central to the perpetuation of the criticism function. Universities must provide the setting for the study of various ideas, however controversial, but they must not espouse any kind of orthodoxy as corporate bodies beyond that of a total commitment to a belief in the dignity of man and his right to self-determination and free expression in a fair society. They will destroy themselves by becoming political instruments. Their survival and the advancement of society is dependent on widespread acknowledgment of universities as places where any and all opinions and ideas may be expressed without fear, favor or coercion.

integration

What has been said about the integration function of colleges and institutes applies equally to universities. Suffice to reiterate the ideal that each student should be helped to develop his own identity and integrity with respect to the human community, and the social consciousness necessary to be an active and understanding participant in a democratic society. Because of their size and the attraction of the discovery function, the universities of Alberta and Calgary will have to expend proportionately greater energy to ensure the satisfactory performance of this function.

career

The career function of the universities ought to be concerned with the growth of those occupations normally classified as professions, and other highly specialized occupations such as research workers. Greater provision for upgrading and retraining after initial preparation should be made. Similarly, the potential of women, native peoples and older citizens for careers in the professions should be deliberately cultivated.

functions of further education

The expansion of opportunities for further education–usually referred to as adult or continuing education–and the acceptance of public responsibility for their provision are as urgent as was the establishment of the provision for elementary education almost a century ago. This claim for the importance of further education rests on the case presented in previous sections of the report. Simply put, it is the necessity of relating learning opportunities to rapidly changing needs as they are actually experienced in individual lives–and in helping people to see their relatedness.

Further education should be regarded as analogous to early education in that it must be no mere extension of existing programs but a deliberate design to expand the horizons of individuals. Here, too, is a potential that must be realized. The ability of adults to achieve in a learning sense does not decrease with age. In fact, experience of life combined with proper motivation will, on balance, produce a highly acceptable achievement level.

There are four interrelated functions to be performed in further education: motivation, emancipation, career, integration.

motivation

As in basic education, the motivation function is concerned with enhancing and maintaining each individual's urge and ability to keep learning.

The growing demand in recent years for further education is evidence of self-recognized needs among certain sections of the population. The increase in interest also illustrates the fact that provisions actually stimulate further demand. Therefore, it seems reasonable to assume that the large latent demand which is known to exist for further education can be rendered active by the creation and publicizing of opportunities for its satisfaction.

There is, however, a widespread attitude of indifference toward further education that must be changed. This attitude toward education in adult life is largely conditioned by earlier social and educational experience. Further education must motivate more people to engage themselves in those educational activities essential to the changing social and technical structure of the future.

emancipation

Our life chances are very often increased or decreased according to the level of education we enjoy. To many Albertans with deficiencies in their basic education, this can mean a form of social and economic imprisonment. It can also seriously affect their ability to adapt to the changing needs of society. These factors are particularly evident among native people and the poor. The opportunity to be set free, to be able to function normally in our society, should be made available to them–and to every individual within our province. There is a compelling need to create opportunities for upgrading basic education within the framework of further education.

career

Acceleration in the rate of technological change, planned obsolescence and increased production capability requires mature people to re-equip themselves for changing vocational demands. There must be increased access for the members of all occupational groups to educational activities designed for coping with obsolescence. Special attention should be given to correlated efforts by the poor, native peoples, and the handicapped to achieve the goals of career proficiency and creative capacity. Because for them the most direct path to self-fulfillment lies in the blending of vocational and avocational pursuits.

Opportunities for apprenticeship should continue to be developed as a means of preparing individuals for special crafts or trades. The cooperation of the vocational schools, colleges and technical institutes with apprenticeship programs must continue in order to support and encourage this method of achieving occupational competence.

integration

The integration function, as described for higher education, is also important in further education. Properly performed, it has the potential to alter the life-styles and enhance the feelings of self-worth for many Albertans. Of particular significance in this human development approach with adults will be activities planned in accordance with the principles of context, personalization and unity identified in Section I.

functions of private and proprietary schools

Growth in the number of private schools in Alberta in recent years has accompanied the trend toward pluralism in other aspects of our social life. Continuation of this correlative tendency is foreseen in the decades ahead.

A further factor intensifying the current demand for private schools by various religious groups stems from the evident decline in religious affiliation and church attendance among all Albertans, but particularly the young.

It is anticipated that private schools operating in all stages of education will, in the future, as in the past, seek the same general goals and perform the same functions as the public sector. However, they will do so in a way which they believe is better suited to the needs and aspirations of their clients. Generally, the differences in approach stem from two often-interrelated beliefs. First, the belief that it is a basic right and freedom of parents to have their children educated within a philosophy that is compatible with their own. Second, that if parents believe strongly that spiritual values are an integral part of education, they have a right to have their children educated in academic subjects in an atmosphere which is supportive of these values, and also to have specific teaching of religious concepts. However, since the provision for education at public expense envisioned in this report can effectively accommodate these differences in approach, those opting for private schools should do so at substantial personal expense. Moreover, given Alberta's propensity for an almost bewildering mixture of religious organizations without parallel among the other provinces of Canada, any widespread encouragement of private schools might lead to an unsustainable degree of educational and social fragmentation. For this reason also, the provincial government must continue to make suitable arrangements to ensure that an appropriate quality of education is offered in such institutions.

Proprietary schools have begun to reappear on the provincial scene. Probably because they are well able to offer short-term courses designed to answer specific and temporary needs of a few members of Alberta society. Their job training function is, of course, subject to a very real market test – employability of the graduate. Nonetheless, as in the case of private schools, some minimum regulation by government is essential for quality control.

Private and proprietary schools, within their limited functions, can produce good results of considerable social consequence at relatively low cost. Sometimes they can also serve as pace-setters for public institutions.

perspective

The various phases and institutions within our educational system can quite readily be assigned functions that are in harmony with their relatively limited purposes. But they must also function to serve a larger purpose; one that by its very nature must encompass them all–the shaping of our future.

The whole notion of the future is elusive. It often fades or crumbles in the face of conventional logic and our habitual concern for hard facts–science cannot bring the future, particularly of human and social affairs, into the comfortable fold of easy understanding and reliable prediction. It disappears into thin air when we try to see it, touch it, hear it, smell it, taste it–all those senses that form the foundation of fact and knowledge. Yet is it not there, in our imagination, affecting every plan we make, every decision we take, every action we carry out?

We must look beyond ourselves and our time. We must try to see the future as it could be–then we are able to reason from the future to the present, rather than simply allowing today to become tomorrow. In doing so, we can assess and choose from among alternative futures.

STRUCTURE

The structure or framework of our system for schooling was designed by people to serve people. It can and should be changed whenever it ceases to meet their needs effectively. However, changes in structure are far easier to discuss than accomplish. Bureaucracy in education, as in other large-scale enterprises, is susceptible to a virulent disease–self-perpetuating officialism. This is a dangerous ailment in which the goals, functions and processes of institutions and agencies become perverted to fulfill the needs and aspirations of the employees, rather than those of its clients.

Thus, developing a structure for recurrent education to facilitate our choice of futures will provoke controversy and uncertainty. Vested interests will be challenged and eroded. Self-perpetuating officialism will be exposed and diminished. Temporary systems will replace permanent ones. Each person's tolerance for change and ambiguity will be severely tested.

To ease the transition from the old to the new, it is proposed that three general guidelines for structural overhaul be observed. These guidelines have been deduced from the propositions advanced in preceding sections of the report, combined with the expressed wishes of many Albertans, and emerging theory, research and practice.

The first guideline is that the provincial educational structure must foster development of relatively independent local units of government and institutions highly responsive to the needs of their clients. In this way, the ideals of the autonomous individual and a futures-perspective are more apt to be realized. Additionally, the principles of adaptability, context and diversity may be more readily applied.

The second guideline is that the provincial structure must provide the coordination necessary for the orderly growth and effective operation of a system of recurrent education. Attention to this guideline nurtures the ideal of participatory planning through the application of the principle of participation. Further, greater concern for the principles of efficiency and equity would also be encouraged.

The third guideline is that the responsibility and authority for the formal aspects of recurrent education should be vested in organizations, agencies or institutions whose primary concern is education. When this occurs the principles of quality and unity are likely to be better served. Moreover, the ideal of lifelong learning has a better chance of being achieved.

These guidelines, along with ideas from the sources mentioned above, will be used throughout this section in an effort to bring about a redistribution of power in the educational enterprise fundamental to change and progress. The proposals to follow regarding organization, governance and coordination are intended to launch the power redistribution process, not complete it. They are to be viewed as fronts from which to advance, not as fixed positions to be defended. Their major aim is to give voice to the enlightened sovereignty of the people, while acknowledging the unique and essential contributions of the learner, the professional and the various levels and forms of our government.

organization

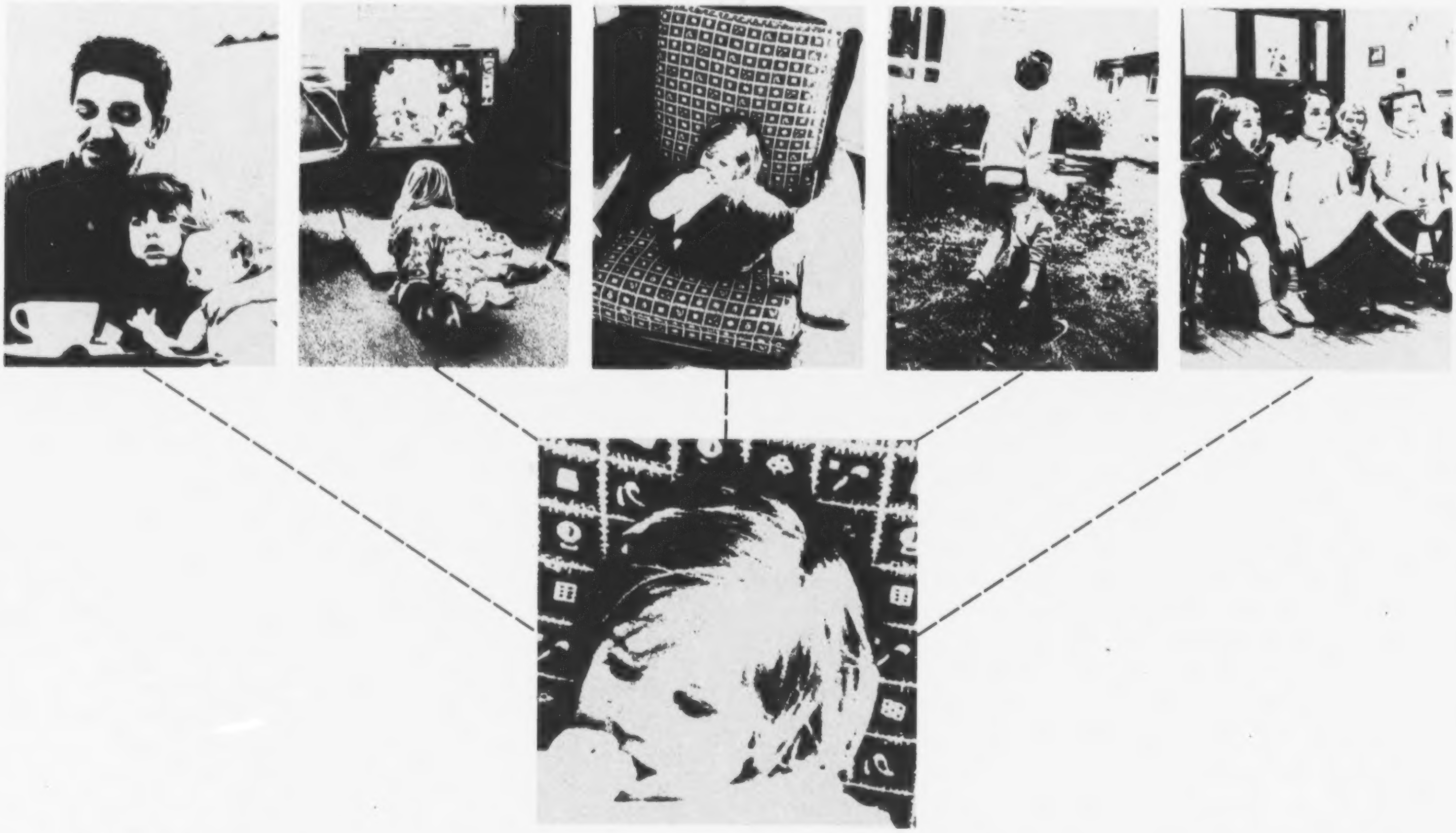
Schooling is a social institution. It is responsible, at least indirectly, to the society that supports it. As society has changed so, also, have our forms of organization for schooling. The development of the large unit of administration in rural areas and the emergence of composite high schools and community colleges, are illustrative of modifications in organization in Alberta which were designed to accommodate earlier alterations in society. Recent and future changes in the social and educational climate, in which our institutions for schooling must operate, have already been elaborated. And this changing climate will bring about shifts in emphasis in the process of education. Hence, the adequacy of our traditional organization is seriously challenged–for organization is but a means to an end. It is a vehicle for facilitating learning by the performance of particular functions, in pursuit of certain goals. Our organization, therefore, requires alteration as goals are modified, and functions change; and as learning is based on different values and assumes new forms.

It is not an easy matter to assess the merits of a particular organizational design or set of services. Inevitably, it seems to involve making more judgments on the basis of value than fact. Moreover, alterations in organization do not in themselves guarantee changes in attitudes, actions or results. Their impact is dependent upon the acceptance and understanding of the persons involved, along with the intensity of individual and group desires to make them work. Consequently, many of the ideas offered for the reorganization of early, basic, higher and further education are derived from the Commission's perceptions of the emerging beliefs of Albertans about the future conditions in which they and their children will be able to thrive as persons and gain greater self-fulfillment.

early education

While several Canadian provinces have high participation rates in pre-school programs, Alberta remains the only one without established plans for publicly-supported endeavors at this level. Yet overwhelming support for such an undertaking was found by the Commission during its hearings. Time and time again, this issue was the subject of agreement between private citizens and professional educators alike. In fact, no other single topic was as often discussed with such a high degree of accord. It is time for us to act upon so clear a mandate.

The development of early education in Alberta must reach beyond imported traditions and look forward to the future needs of our own children. Four points of emphasis should be pursued. The first, and most fundamental, is that of universal opportunity for all five-year-old children. The second centres on the provision of a selective experience for disadvantaged and/or handicapped three- and four-year-old children. The third involves the integration of day-care programs with early education opportunities. The fourth extends the impact of the other three approaches by guaranteeing the province-wide availability of early education through the creation of televised learning packages.



universal opportunity

Alberta's limited early education policy must be replaced by universal opportunity for one year of guided learning, prior to entry into the basic education system. Participation should be a parental option. Children, younger than the full age of five years, would not, generally, be accepted for enrollment in pre-primary programs. Initially, however, two or more entry points per year would be provided. Thus, a child, whose fifth birthday fell in October, might not be admissable in September, but could be eligible for enrollment at an entry point later in the year. Eventually, through substantial reorganization of the school year, a birthday entrance age-policy might be adopted.

Participation by five-year-old children in early education programs would probably be limited to half-days. In most situations, economies could be achieved by operating on the basis of two shifts per day. This system is particularly appropriate to urban areas where numbers of children are greatest and distances are minimal. Normally, the operating year for these programs may be expected to coincide with that of basic education.

The numbers of five-year-old children in Alberta in 1975, 1980 and 1990 are estimated to be 32,000, 38,300 and 48,000 respectively. Assuming participation rates of 80 percent in 1975, 90 percent in 1980 and 95 percent in 1990, the numbers of five-year-olds expected to be enrolled in early education programs are 25,600, 34,500 and 45,600.

By comparison, in September of 1970 there were 12,206 five-year-olds enrolled in Grade I, and 11,623 children in kindergartens throughout Alberta. The latter figure is composed of 2,065 attending programs sponsored by school jurisdictions and 9,558 participating in parent-paid private kindergarten programs. Because the kindergartens enrolled children who would be eligible to attend school the following fall, these totals include some four-year-olds.

selective experience

Specialized early education opportunities need to be provided, on an optional basis, for exceptional children who require particular attention and opportunity. This assistance will be of greater benefit if it is available when the child reaches three- or four-years of age.

In addition, we must develop more effective methods of identifying the physically, mentally or emotionally handicapped, and those children disadvantaged by reasons of culture, geography or economic status. Most children in the first category could be identified by means of an improved registry for handicapped children. Hopefully, the remainder would be referred to diagnostic centres by their parents or professional personnel.

Defining and identifying the disadvantaged is a more difficult task. One approach would be to designate special areas for priority treatment as is done in parts of Great Britain and the United States. The Lac La Biche region in rural Alberta and the Boyle Street district in downtown Edmonton are illustrative of areas where this approach would be appropriate. Where the distinction between the advantaged and disadvantaged is not so clear, those in need of special treatment might be identified by using such criteria as low income, one-parent family, working mother and inadequate home environment. However, care must be taken to ensure that, in the application of any such criteria, the dignity and rights of each child and his parents are safeguarded.

Disadvantaged and handicapped children of three- and four-years of age are expected to number 18,800 in 1975; 22,500 in 1980 and 26,800 in 1990. These figures anticipate some overlap between a 10 percent incidence of handicap and a 20 percent incidence of poverty in this age group. Participation rates are assumed to be 50 percent in 1975, 80 percent in 1980, and 90 percent in 1990. Therefore, the estimated numbers of such children to be served will be 9,400, 18,000 and 24,100 in 1975, 1980 and 1990 respectively.

day-care

Tomorrow's efforts in the day-care field ought to be thought of as primarily educational, rather than as a welfare or health activity. In all probability the number of working mothers will increase and their children will, as a result, need a substitute for the home learning environment. While some provision for such children is anticipated in the programs previously outlined, further services will, undoubtedly, be required. Planning for the provision of these services on a broad, cooperative, child-development basis is viewed as a major challenge for the Division of Early Education proposed on page 135.

televised learning

Concurrent with the implementation of place-bound preschool programs, a televised learning package ought to be introduced. For convenience of discussion, this package has been christened **Early Ed.** Designed to focus primarily on the stimulation function, the central role of this learning package would be to launch a search for self-fulfillment. Produced and distributed by an agency of the provincial government, Early Ed would embody early education experiences uniquely Canadian and Albertan in character.

Early Ed must be more than just another television series. This learning package must extend the ideals, principles and goals of recurrent education through the use of a medium that for too long has been denied a proper place in the learning process. It is equally important that this series be delivered to homes, early education facilities, and child development or day-care centres. Especially important is distribution in the sparsely-populated regions of Alberta.

Early Ed would require a lead-time of 14 months in its planning phase. After that, the series could commence as a daily, hour-long, broadcast and cable-vision package, running eight months of the year, plus summer repeats. Estimates indicate that operating expenditures for such a color series would be $2.4 million, from commencement of planning to completion of the first broadcast phase. This estimate is dependent on construction of the ACCESS studio and transmitter facilities described beginning on page 266. If studio and transmitter facilities were rented, costs would rise to $2.75 million and sparsely populated areas of the province could not be reached. After its first broadcast phase, the continuing costs of Early Ed would fall sharply. Unit costs promise to be remarkably economical in comparison with alternate means of delivering learning packages to three- four- and five-year-olds.

Early Ed would complement *Sesame Street* and other early childhood television programs. But Alberta's new learning package must add different dimensions to existing series, extending both the potential of the medium and the learning experience. Supplementary learning kits would be essential so that the child can discover for himself the textures being shown on the television screen, manipulate his own three-dimensional materials, find out that the picture tube generates static electricity, draw pictures from the screen, view the program's characters through colored lenses, and perhaps fashion his own puppets.

Early Ed should also address itself to the parents by devoting special programs, and portions of programs, to assist in their understanding of child development. Therefore, ways in which parents could help their own child learn, and activities they could initiate as a follow up to the televised learning experiences ought to be a part of the learning package. For Early Ed would have the potential to turn each living room into a learning laboratory–in which the parent may learn as much as the child. The intent would not be universal parenthood training, but rather a commitment to the notion that every parent has the obligation, and requires the opportunity, to learn more about child rearing.

While the series would be of value to a large majority of children, it would be particularly important to those who are unable to participate on a regular basis in a group situation. To further enrich the learning experience of such children, consideration might be given to the use of both mobile classrooms and travelling resource people. Mobile classrooms that visit a given area on a weekly basis could be an effective method of providing a group experience. Itinerant resource people could also tutor the child in his home and, sometimes, accompany the mobile classroom. Individually or together, these added resources would extend the ability of Early Ed to perform the identification and socialization functions so necessary for a well-rounded and balanced learning experience.

The provincial government should enter into joint production arrangements with other Canadian provinces so that Early Ed may reflect national as well as local relevance. The Province of Ontario is already discussing joint production, complementary production and exchange production of pre-school programming with Alberta officials. These cooperative opportunities should be exploited to their fullest extent since, while providing better national focus and welcome expertise, they would also result in considerable cost saving.

The experience of learning with television has a value in itself. It helps orient young children to the learning resources that advancing technology will soon make a common part of their later schooling. Thus, what might be thought of as merely a by-product of Early Ed, in fact, would be an initial contribution toward achieving the goal of personal autonomy.

sponsorship

Pre-school programs are presently offered by a variety of agencies, including school systems, other public bodies and community organizations. Provided that these broadly-based agencies are competent, early education programs should continue to be operated by them with the benefit of full public support. Such variable sponsorship has great potential for introducing a richness of diversity that will create a choice of learning environments for the parents of young children.

Variable sponsorship will tend to free early education from the constraints of present structures and the influence of primary programs. As envisioned in Section IV of this report, some sponsors may offer programs cast in the institutional mode, others in the membership mode, and still others in the autonomous mode. In the interests of adaptability and personalization, there will also be many other kinds of opportunity for innovation. While some programs might stress skill development, others might take a multi-disciplinary, total services approach, evidencing concern for medical-dental care, nutrition, social services, psychological services, parent education and the involvement of community volunteers. Other agencies might offer initial instruction in languages other than English, such as Cree, French and Ukrainian; some might stress joint child-mother learning opportunities closely related to the home environment.

This mixed opportunity-base could be further expanded by private agencies, such as church organizations, who would receive the same proportionate level of public support that is now extended to approved private schools. Additionally, some proprietary schools would probably continue to offer certain kinds of early education. Financial support from the public purse is not appropriate for such schools, however, unless they operate under contract to a public authority.

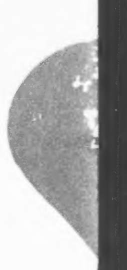
Agencies now providing pre-school programs must be involved in the future of early education for one further, and very vital, reason. It is to enable us to tap the expertise they have developed. This knowledge, plus their interest and enthusiasm, will help Alberta forge ahead where it presently lags behind.

basic education

The shape and force of future events, as reviewed in Section I, make it imperative that the individual's right to participate fully in a system of recurrent education be protected. One way of extending this protection is to guarantee a fundamental level of education for each child. Association with education is thus maintained until such time as the student is better able to decide upon the personal importance of lifelong learning.

Basic education should continue to consist of 12 years of schooling. Beginning at six years of age, completion of this phase of education would then coincide with attainment of the age of majority. The projected total enrollments for 1975, 1980 and 1990 are: 431,500, 414,500 and 513,500. By contrast, the enrollment in basic education in 1970 was 423,964.

It is interesting, and important, to note that between 1970 and 1980 the number of students at the basic education level is expected to decline by over 9,000. However, the next decade will bring a rise in numbers of almost 100,000. The main reason for this increase will be the second generation effect of the post-war baby boom: their children will have reached school age.



involvement

The first general opportunity for a student to leave our basic education system is set down by provincial legislation as 16 years of age. The Commission has considered very carefully the issue of compulsory schooling until that age, and has concluded that no change should be made in the existing law. While many Albertans evidenced concern about this matter, no clear public voice was discernible.

Attendance laws in this province, as elsewhere, are reinforced by child labor laws, prohibiting anyone from employing a child of compulsory school age during the time that school is in operation. At the same time, there are now provisions for excusing children from attending school for certain specified reasons. In Alberta, these include: inability to attend because of illness or other unavoidable cause; special cases where no suitable program of instruction is readily available; continued attendance that is detrimental to the child or the school; and receipt of satisfactory instruction at home or elsewhere.

The latter alternative to formal school attendance gives rise to some interesting opportunities–for it is now technically possible for the home and some other non-school environments to become individualized learning centres. This eventuality is no longer a matter of inventing or developing, but merely of refining and making readily available certain learning resources described beginning on page 255. In the long run, the existence of sophisticated learning systems designed for personal use in non-institutional settings may be expected to blunt the force of school attendance requirements.

But for at least the next decade, it is difficult to be persuaded that diluting or discarding existing compulsory schooling laws would be wise. Likely, the children of low-income groups would suffer most from such a change due to the lack of family and peer-group support to continue their formal education. For these children, the abolition of some measure of compulsory basic education may simply ensure lifelong entrapment in the vicious cycle of ignorance and poverty. Moreover, a minimum level of education will be even more essential to the system of recurrent education envisaged for the future. The skills and knowledge obtained in compulsory basic education will constitute the take-off point for lifelong learning. Can we afford to leave anyone stranded on the ground?

planned differentiation

Like the church of the past, our educational system is rapidly discovering that a monopoly does not guarantee majority acceptance of rigid doctrines. However, there is still a strong tendency toward uniformity in both public and separate schools. This homogeneity often stifles both the learning and teaching process. Controlled course offerings, stereotyped teaching methods, limited learning resources, inflexible scheduling, and consonant philosophies–all contribute to this sameness. Greater differentiation with respect to these factors, especially at the senior school level, would benefit both students and society at large.

A deliberate policy of planned differentiation would allow certain schools within jurisdictions to assume special roles or distinctive characteristics suited to local circumstances. As an extension and refinement of the present composite school organization, attempts could be made to provide for differentiation within a single school. Variation at early, intermediate and senior stages of basic education by the modes of program operation described in Section IV could serve as one fundamental basis for differentiation among and within tomorrow's schools. Another basis could be the relatively uncommon interests, needs and talents of certain students. Particularly in Edmonton and Calgary, application of planned differentiation could lead to the designation of certain institutions as area schools. By reason of available personnel and equipment, these schools could offer superior service in specialty elective programs to students enrolled in neighboring institutions.

Illustrations of planned differentiation already exist in Alberta. The Edmonton Separate School District has established a bilingual junior-senior high school, and has begun some measure of differentiation among its other secondary schools. In Red Deer, the public school board has set up a special program for junior high school students who are unable to function effectively under regular school conditions. Others are the recently opened Bishop Carroll School in Calgary and the T. D. Baker School on the drawing boards in Edmonton. While some additional examples of differentiated schools could be cited, they represent a very small proportion of the over 1,300 schools in Alberta.

In the years ahead, it is anticipated that far greater importance will be attached to the performing arts. Conversely, in our present technological era, a great deal of attention and support has been lavished upon the physical sciences and vocational education. Thus, subjects such as art, drama and music have been seriously neglected. Increases in leisure time, the general education level and the standard of living

will soon lead to a value shift that, in part, will emphasize aesthetics. Present demands on our institutions for schooling demonstrate that a movement in this direction has already begun. This movement will accelerate to the extent that our system of recurrent education deliberately emphasizes the goal of creative capacity.

A significant opportunity to further this goal is to be found in some measure of differentiated schooling. While it is not feasible to establish special schools for the performing arts throughout the province, it is possible and desirable that one senior school in both Edmonton and Calgary be developed along these lines. Sponsorship of these institutions could be a joint responsibility of the public and separate school boards in each city. These schools should, insofar as possible, be open to all students in Alberta. Out-of-city students could be accommodated through inter-board tuition agreements and provincial supplements for housing. The establishment of such specialized-subject senior schools would obviously necessitate major alterations in programming and credentialing. Concurrently, admission requirements for further and related study at higher education institutions would need to be modified. But the resulting pay-off to individuals and society would more than justify the effort required to create and sustain schools of this type.

Diversity in our dual public school system, which planned differentiation is intended to foster, is one essential ingredient in nurturing the growth of socially responsible autonomous individuals. But it must be recognized that diversity carried to the extreme could contradict the principle of unity and thereby erode the common learnings that help to bind our society together. This danger must be offset by the promotion and maintenance of another kind of differentiated institution–the community-school. A community-school is one that provides for the intermingling of persons of differing ages, sexes, intelligence, socio-economic status, and ethnic origins as a basis for building mutual respect and understanding. For at least a few years of their schooling, all students would profit from learning in this kind of a setting. So would our society.

Implicit in the implementation of planned differentiation is the abolishment of present attendance areas within administrative units. This process has already taken place in a number of jurisdictions–the Lethbridge Public School District is a case in point.

When attendance area restrictions are abandoned, the opportunity for individual choice of schools will become a reality. Then, at the senior level, selection of a school could rest with the student, subject to parental approval, limitations of space and transportation arrangements. At the junior and intermediate levels, parents' preferences might predominate. However, at all levels, there would have to be some restrictions on altering choice in order to avoid program chaos and resource waste.

Planned differentiation may also render obsolete our conventional units of school organization: elementary, junior high and senior high. Increasingly, the ways in which students are grouped or organized for learning ought to be determined by local school authorities in relation to the requirements of the situation. Decisions of this sort will be greatly influenced by total student population and its density, as well as by the degree of differentiation desired. As much as possible, however, emphasis should be upon forming a good base for a functional social and learning unit. Careful attention must be given to the varying maturity levels of students and peer-group influences. Furthermore, care must be taken to ensure that the organization does not inhibit the kind of continuous student progress envisioned in the process section of this report. Rather, it should contribute to the elimination of the artificial barriers created by the present graded system, and to a major reduction in student alienation associated with the traditional organization of schools and classrooms.

rural education

There is a strong and observable tendency for rural people, especially the young, to feel that the quality of their education is inferior to that offered in urban centres. This attitude reflects the larger problem faced by those residing in small towns or on farms: maintaining a standard of living comparable with that offered in Alberta's cities. Parity between city and non-city educational opportunities is central to upgrading the quality of rural life. Proper schooling is vital to rural children whether they remain on a farm or enter the labor market. Just as the increased size of farms and complexity of the agricultural industry will require better managerial, marketing and technical skills, so, too, will success in other occupations be dependent upon higher levels of knowledge and aptitude.

Equity in schooling is not only crucial to the performance of the anticipation and motivation functions in basic education, it is equally so with respect to those of individualization and preservation. The importance and dignity of rural living must not continue to be downgraded. Our aim should be to reverse the process–to make it an attractive, indeed a much sought-after, alternative life-style. And a constant companion of this life-style ought to be equality of educational opportunity.

transition

Rural Alberta was once a network of railroad stops and six-mile-square township centres. Within a single generation, availability of the automobile and construction of an extensive all-weather road system rendered these restricted lifelines socially and economically obsolete. Advances in technology increased the commuting distance of the rural resident by approximately 10 times, or the ratio of the speed of an automobile to the horse and buggy. New neighbors were made of acquaintances who had previously lived too great a distance away. Goods could be purchased from outlets that were dispersed on a geographically wider basis. Eventually, the human tendency towards selectivity took full advantage of these expanding horizons, and both business and personal relationships were substantially altered.

One result of this evolutionary process has been the emergence of major functional regions, each with a central city. In the wake of this development many smaller Alberta communities have become stagnant. The average age of the population has climbed well above the provincial average and retail services have declined in line with reduced sales volume. Many small towns or villages have functionally disappeared or become simply residential or bedroom communities. Their traditional economic base as a service centre to agriculture has been usurped by a few larger towns or cities geographically more fortunate than themselves.

The natural pattern of major functional regions in the well-settled parts of Alberta is readily discernible. An example is the division of southern Alberta into the Medicine Hat, Lethbridge and Calgary regions, with a number of sub-regions centred around large towns such as Brooks, Vulcan, Taber and Cardston. Such functional regionalization around large towns in the more remote parts of the province is expected to emerge in the years ahead. A peculiar, yet understandable, characteristic of these functional regions is that they tend to differ radically from the formal or paper regions established to distinguish between municipalities, counties, school divisions, census districts and constituencies. The former relate to the action patterns of people, the latter to tradition and gerrymandering: the first is real, the second is artificial. One pattern represents yesterday, the other today–neither may be tomorrow.

integrated provincial development plan

Local and provincial school authorities have manfully tried to plan basic education services in the face of unstable residential patterns. Frequently they have encountered stubborn, but reasonable, resistance from rural residents faced by the loss of a local school and the subsequent impact this action would have on their lives. Efforts at centralization have often intensified conflicts of interest and rivalries between communities. Stalemate, delay, bitterness and frustration are seemingly inevitable outcomes.

Resistance to planned school concentration has its roots in a variety of social, economic, biological and emotional factors. For this reason, we must bring into the perspective for all Albertans the change in residential patterns which has occurred. Further, we must help all citizens to understand and react to the patterns of change anticipated for the next 30 years. But more than that, we must prepare for the future on a cooperative basis by establishing an Integrated Provincial Development Plan.

The formation of an Integrated Provincial Development Plan will transgress the lines of responsibility usually associated with any single provincial government department or academic discipline. It will also extend beyond the terms of reference of existing groups or organizations established by the provincial government, such as: the Cabinet Committee on Rural Development, the Provincial Municipal Advisory Committee, the Task Force on Urbanization and the Future, and the Alberta Industrial Incentives Board. Since it will touch the lives of many, the creation of an Integrated Provincial Development Plan is an awesome political task. Moreover, it cannot be left to professionals or civil servants alone. Rather, it must be conceived and carried out with the support and participation of the citizenry.

Numerous advantages accrue from the spelling out of regional development trends and goals. Initially, a basis is established on which all government agencies can coordinate their respective efforts. Business and industry then would be able to look ahead with greater confidence and invest accordingly. Rural residents would be able to plan more rationally and confidently for their future. Those individuals earning a living by farming could, for example, more easily weigh the benefits of opportunities like the federal government's seven-year small farm development program. Integrated planning would also assist all Albertans in making more knowledgeable material and human investments. In turn, social and economic efficiency would increase with a corresponding decrease in personal frustration and disappointment.

Integrated social and economic planning, on a province-wide basis, could provide a framework for the development of education and all other public services. Such planning need not be too specific, and must not be inflexible. It must also leave detailing of arrangements to persons living in the regions concerned. Accordingly, more local bodies, such as the Neutral Hills Development Committee, ought to be formed.

The existing Provincial Planning Act does not visualize a high degree of decentralization or flexibility. It is conceived on a narrow base within the confines of municipal administration. The act bogs down in the myriad of detail associated with planning sub-divisions, road allowances and public water supplies. Thus, we have planning in the present, for the future, that is stifled by anachronisms of the past.

Integrated planning in a new key must be initiated, modified and sustained by a body with the strength and resources to overcome the tremendous pressures of particular interests– and the numbing paralysis induced by the appalling complexity of choice. This body must have the empathy to listen patiently to all the various claims, the wisdom to combine the art of the possible with the vision of the desirable, and the forethought to formulate precepts that will be acceptable coinage in the political market place. The complexity and province-wide nature of this task makes obvious the choice of a candidate to fulfill all of the foregoing needs. It is the Government of the Province of Alberta.

jurisdictional arrangements

Recognizing that a variety of settlement patterns will persist throughout rural Alberta, three alternatives for adaptation appear to be open to those areas now covered by counties, school divisions and non-city districts.

One alternative, for jurisdictions possessing sufficient population, is to maintain their present status. Within the boundaries of these jurisdictions, some measure of centralization would continue in order to create school units that are effective both in terms of quality and cost of education.

A second option is for, a number of contiguous school jurisdictions to join together so that a regional district could be established. This would result in the improvement or addition of educational services. This alternative is particularly applicable to areas embracing several school districts and divisions, each with a small student population. Drumheller is representative of just such a region as it now has five school jurisdictions in close proximity to one another. An example of the implementation of this type of voluntary arrangement can be found in the St. Paul Regional High School District No. 1.

A third alternative is for school systems serving diminishing populations, including town or village districts and divisions or counties, to be amalgamated on a much larger geographic basis. These regions then would have the clientele and resources to support a desirable quality of schooling. The critical problems of distance arising from amalgamation could be overcome through the use of some of the new learning resources envisioned in Section VI. Parts of the province where the amalgamation alternative may be applicable are indicated in Figure 4.

The amalgamation alternative necessitates the dissolution of school jurisdictions combining to form the new larger unit. Where the reorganization is limited to school services, the amalgamated division could be governed by a school board. But where a total services approach to reorganization occurs, a multi-purpose unit of government, like the county, might be more appropriate.

A major benefit to be derived from amalgamation is the ability to improve upon specialized services, such as schooling for the handicapped. Also, amalgamation would help to correct the disparities that exist between rural and urban schools in Alberta. Studies have repeatedly shown that rural schools compare unfavorably to those in the cities with respect to the quality of instructional personnel, support services, learning resources, program offerings and student achievement. It is highly doubtful that the potential or presumed strengths of small, relatively isolated schools can be sufficiently developed and exploited to overcome their inherent weaknesses.

Given the anticipated low density of school-age population where amalgamation might be applicable, the size of the units will not lead to unnecessary administration expenses. While there may be a point at which the size of some school systems leads to an increase, rather than a decrease, in per pupil administrative expenditures, it is very unlikely that it ever would be reached in rural Alberta.

In view of the residential and population changes in the last several years and those expected in the near future, it is urgent that there be a substantial revamping of school system boundaries and consequent reduction in the number of jurisdictions. This redrawing of the map of rural Alberta must take into account the need for other public services. It must also reflect the outcomes of detailed economic, geographic and demographic studies, and attempt to anticipate the shape of things to come. Thus, a much more comprehensive boundaries study is required than the one completed by the Coterminous Boundaries Commission in 1954. Such a study ought to be a core element in the preparation of the provincial development plan referred to earlier. Furthermore, it must seek to eliminate the curious and politically unjust discrepancies in existing county legislation. The study must also consider the implications of three areas in Alberta–Falher-Girouxville-Peace River, Legal-Morinville-St. Albert, St. Paul-Bonnyville-Lac La Biche–becoming bilingual districts as suggested by the federal government's Royal Commission Report on Bilingualism and Biculturalism. The unique nature of these districts probably will need to be supported by compatible educational activities and jurisdicational arrangements.

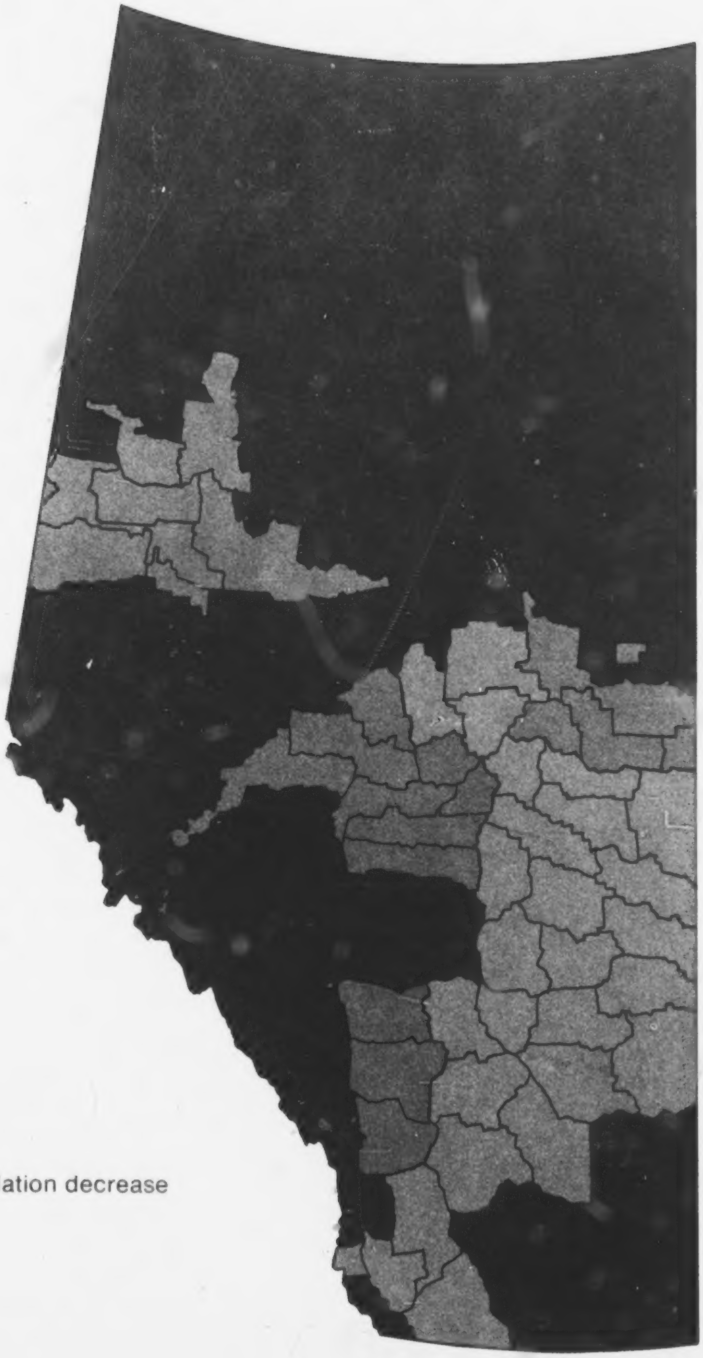


Figure 4
Anticipated Population Shifts
by Census Divisions: 1970 to 2005

- ▨ Actual and relative population increase
- ■ Actual and relative population decrease
- ▨ Actual population increase, relative population decrease

regional learning centres (RLCs)

Another means of achieving greater equity in schooling for rural Albertans is through the establishment of regional learning centres to serve those areas that would not be serviced by a central city. Unless this is done, persons living in sparsely-settled or remote parts of the province will become progressively more disadvantaged with respect to education than their counterparts in city-hubbed rural regions.

These RLCs would provide a variety of special services: early education, learning disability diagnosis and treatment, further education, counselling, programs for exceptional children and youth, and tutoring for those enrolled in the Alberta Academy (to be discussed later in this section). The RLCs could act also as a central supply house for learning materials for a cluster of communities and their institutions as part of the ACCESS network described later in Section VI. Many of these services could be housed without massive capital expenditures simply by extending the use of existing public and commercial facilities.

The multi-purpose nature of the RLCs would be enhanced by linking or combining them with other social and recreational services. The inclusion of some residential facilities, particularly for the use of learners engaged in short-term activities requiring specialized equipment and personnel, would also broaden the contribution that the RLCs could make. To extend their influence even further, manned mobile classroom or resource units might circulate through outlying areas.

Largely financed by the province, the regional learning centres are seen as being the responsibility of regional boards established through an extension of existing legislation. In some cases, these boards might be the same as those established to govern the larger regional administrative units resulting from the amalgamation of existing jurisdictions. Thus, the identification of appropriate locations for these centres could be another outcome of the boundaries study and Integrated Provincial Development Plan, referred to earlier. Exploratory studies suggest as probable locations places like Drumheller, Edson, Peace River, Stettler, St. Paul and, perhaps, Vulcan and Westlock.

It is assumed that residents of rural areas adjacent to cities will have access to the sophisticated and comprehensive services already present to some degree in each city. Assurance of this can be achieved through the negotiation of formal regional agreements between rural and urban school, health and social service authorities. Undoubtedly, the province would have to help meet the costs of extra services supplied by the cities to non-residents. Similar arrangements could prevail in regard to rural residents for whom public and private colleges, the vocational training centres at Lac La Biche and Fort McMurray and the Alberta Indian Education Centre might function as regional learning centres.

separate schools

Electors of the religious (Christian) minority group are entitled by vote to establish a separate school district in Alberta. But they are not permitted to organize on the basis of a school division, which is comprised of several districts. The result is that the religious minority has been effectively limited to organizing separate school systems within cities and a few towns and villages.

The contention that separate school systems should be permitted to organize on the same geographic basis as the public school systems is easily upheld. A larger unit of organization is a logical extension of the minority's constitutionally guaranteed right to establish a school district in a city, town or village. The obvious difficulty associated with allowing an expansion of separate school systems throughout Alberta is that many sparsely populated counties and school divisions are barely viable now–and likely will be even less so in the future. Fragmentation of these units into two jurisdictions would make it almost impossible to provide quality schooling at reasonable cost.

In the future, however, there may be some rural areas, particularly those gaining in population, which might be able to support two competing school systems. Such areas may be identified in the study of boundaries and the Integrated Provincial Development Plan proposed earlier. Until then it would be premature and unwise to undertake any expansion of the dual school system.

Consistent with previous proposals to open up schooling, all parents ought to have the freedom to send their children to the school of their choice under the dual educational system. As an example, some Roman Catholics might choose to send their children to a public, rather than to a separate school. Similarly, the reverse might be true.

Unfortunately, such freedom of choice is inhibited by the constitutional guarantees of religious minority rights in education embodied in the Alberta Act. These group rights appear to be on a collision course with the intent of recent human rights legislation. The Alberta legislature faces a long, slow and highly contentious struggle in attempting to reconcile the two.

In the meantime, however, there is an avenue open to those who wish to move from one of our publicly-supported educational systems to the other. It is a negotiated provision for exchange of students between public and separate school jurisdictions. This procedure already has been implemented in many places, other than the two major cities, and is deserving of extension throughout the province. Nevertheless, these negotiated provisions for exchange appear to be a circumvention of the law of the land. And what good are laws that require citizens to break them to achieve desirable personal and social goals?

handicapped learners

Many studies have drawn attention to the inadequacies of the present level of service to the handicapped children and youth of Alberta. This backlog of deficiencies, when added to a conservative prediction of a 10 percent future incidence of some form of serious physical, mental or emotional impairment, illuminates the magnitude of the problem: about 50,000 learners a year requiring special treatment, schooling and care.

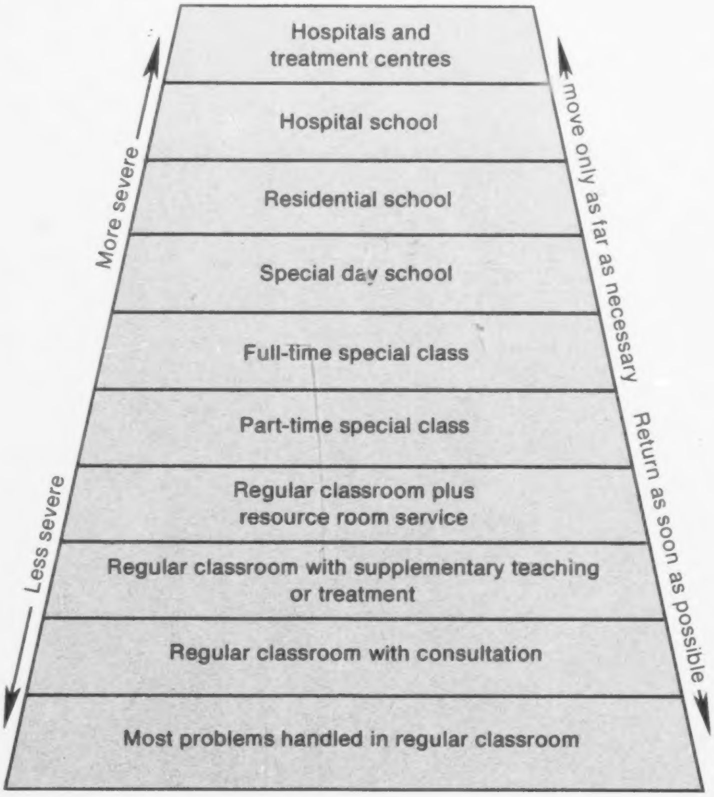
The range of different disorders, the variance in their severity, the number affected and their geographical distribution, and the availability of resources defy simple and immediate solutions. Yet the demand for authentic solutions is mounting. Ways simply must be found to end the half-life of these exceptional children, and to ease the long-endured financial and emotional burden of their parents. At least four steps ought to be taken simultaneously to launch a swift attack upon the most evident problems, and to establish guidelines for long-term solutions.

One is to accept and act upon the view that it is the duty of society to provide educational services for every individual child according to his needs, abilities or disabilities. Acceptance of this precept implies our assent to a substantial upgrading in financial support for the schooling of the handicapped. The resulting improvement in levels of service would eventually lead to the incorporation of most of the programs now offered by community agencies and interest groups into our basic education system. In the short run, however, rapid improvement in services could be achieved by building upon the knowledge and resources of those presently involved. Thus, for a brief period–perhaps five years–the adoption of variable sponsorship with vastly increased public support for organizations now assisting the handicapped seems both desirable and necessary.

A second step is to move toward more comprehensive solutions of the issues in the education of exceptional children and youth, within the framework outlined in Figure 5. Implicit in this framework are two major objectives. One is to provide in-school service for as many exceptional learners as possible. The other is to increasingly meet their needs in relatively normal or conventional learning situations.

A third step is to implement, on an accelerated basis, some of the existing proposals for meeting demonstrable needs. These would include: provision of facilities for the over 500 mentally-handicapped children on the waiting list of the Alberta School Hospital in Red Deer; a rehabilitation centre for the physically handicapped; residence-activity units for dependent handicapped children and young adults; increasing the number of travelling clinics and rehabilitation teams to provide diagnostic and treatment services throughout rural Alberta for those suffering from primary learning, behavioral, social, sensory, speech and physical disorders; and extending the availability of learning materials geared to the unique requirements of the exceptional child.

Figure 5
Programs for Exceptional Children
Directed Toward In-School Service[1]


Hospitals and treatment centres
Hospital school
Residential school
Special day school
Full-time special class
Part-time special class
Regular classroom plus resource room service
Regular classroom with supplementary teaching or treatment
Regular classroom with consultation
Most problems handled in regular classroom
More severe
Less severe
move only as far as necessary
Return as soon as possible

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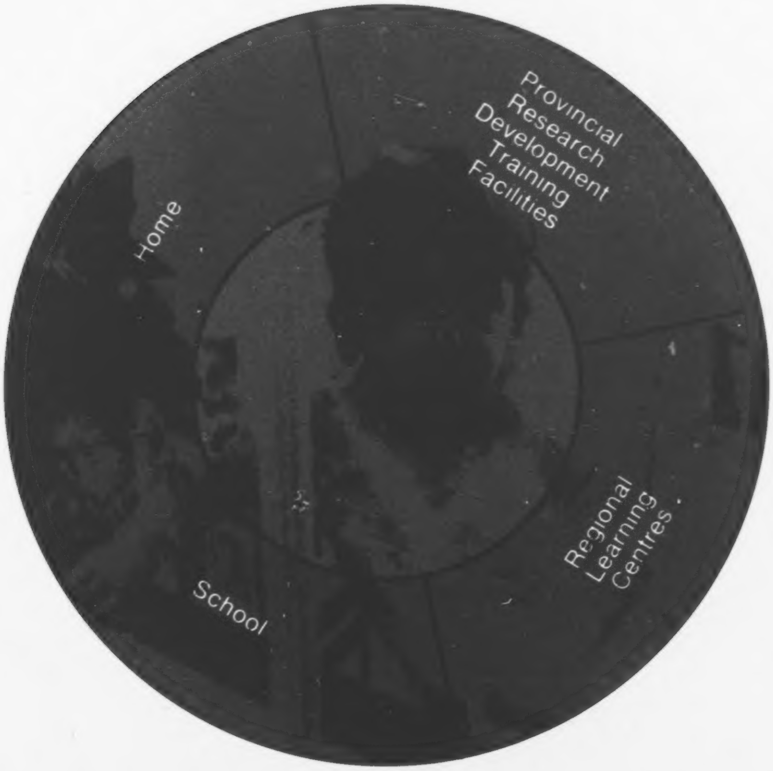
[1] The Committee on Teacher Education and Professional Standards, *Standards for Educators of Exceptional Children in Canada* (Toronto, Ont: National Institute on Mental Retardation through Leonard Crainford), 1971.

A fourth step is to establish a province-wide network of services as depicted in Figure 6. This network would link home, community, regional and provincial efforts on a complementary and systematic basis. Formation of a provincial network might be undertaken by an interdepartmental and interdisciplinary task force under the aegis of the Department of Education. The task force would need to give particular attention to the development of diagnostic and treatment services in the regional learning centres previously proposed, and to their relationship with itinerant and local provisions. Another significant aspect of their work would be to integrate in the network the more sophisticated resources to be found in research, development and training facilities in various hospitals, universities and special purpose institutions throughout the province.

Figure 6
Network of Services
for Exceptional Children



children of the poor

The sickening truth about poverty is that the poor are poor because of remedial disadvantages. They are caught in a web of misfortune over which they have little or no control. Today's poor exist largely because of inferior education, few marketable skills, lack of information about job opportunities, inability to move to known job opportunities, inadequate work habits and deteriorating physical or mental health stemming from economic deprivation.

The impact of these conditions on the children of the poor is most readily apparent among Alberta's Indian and Metis populations. For reasons of cultural similarity, and because of the fact that about 60 percent of treaty Indian children now attend provincial schools, organizational arrangements for the future schooling of these groups will be more alike than different. This likeness stems from a common root–a need for school integration on terms favorable to self-fulfillment.

To avoid perpetuating discrimination and alienation, we must make it possible for native children to participate in the first five or six years of school in their own communities. In the case of Indian children, this proposal means that schools would be operated on the reservation and that the children would not be transported to neighboring provincial schools. However, as is the case for many other rural residents, schooling in the home community would not always be possible. Depending upon distance involved, either bus-service or accommodation away from home must be provided for students affected in this manner. Should out-of-home accommodation be required, residence living must be a readily-available alternative to the often unsatisfactory boarding arrangements now made for many Indian and Metis children. These residences, if managed and staffed by native people, would enable the occupants to ease their adjustment to a new environment. A third alternative might also be offered –group homes run by native couples who would act as houseparents. In addition, and as an alternative to integrating native youth in schools adjacent to reserves and colonies, reverse programs could be fostered that would encourage white students to attend native community schools if they so desire.

There is, and will continue to be, a growing influx of native peoples to the cities. Studies indicate that native students in the cities, like their rural counterparts, typically progress more slowly and tend to drop out of school at the earliest opportunity. In order to better deal with these problems, and to help native children cope with their introduction to the urban-industrial environment, consideration might be given to the establishment of one or more special junior schools for Metis and Indian students in both Edmonton and Calgary. If only one such school was required in a city, it could accommodate both Roman Catholic and other students by means of a special agreement between the public and separate school boards. After completing junior or elementary school under non-integrated conditions, the native child should be academically proficient and culturally stable enough to allow gradual assimilation of a second and different culture.

There is growing acceptance of the view that by virtue of their particular treaty rights, Indians should be regarded as citizens-plus by the Canadian society-at-large. By contrast, their current status could, at best be termed one of citizens-minus. Any suggested upgrading of citizenship must mean that treaty Indians have the basic civil rights afforded all Canadians and, in addition, have certain special rights provided for in the treaties, such as: hunting, fishing and trapping, free education, free medical care and economic development of Indian lands. The Commission on Educational Planning supports this position and believes that similar special status should be accorded to the Metis, at least for a time. This provision of a measure of positive discrimination for all native children will help ensure the receipt of equality in schooling; an ideal that has long been denied them.

It is assumed that eventually the federal government will withdraw from all but financial involvement in Indian education. However, this must be done on a basis that will recognize the legitimate aspirations of the Indian people. The provincial government should strive to bring this about.

The children of the poor are not just native children. They are the children of more than a fifth of our adult population. They are found in our cities and on our farms, in our towns and in our villages. They are everywhere and they are nowhere. Unable to utilize their most accessible spring-board from poverty–education–today's children of the poor are likely to be tomorrow's disadvantaged adults.

Here again, the concept of planned differentiation discussed earlier in this section offers a partial solution. Inner-city and other schools serving dispossessed children and youth are already different in that they are so obviously institutions for the poor. They have poorer buildings, poorer programs, and poorer learning resources. In future the opposite should be true. For this upgrading to occur, it is imperative that future organizational arrangements be supported by a policy of preferential resource allocation by all levels of government.

higher education

To abolish a non-functional hierarchy of prestige, higher education must be rebuilt as a fully federated system. Of the emerging organizational arrangements suited to this purpose, Albertans seem to prefer a combined development model. Such a model provides for the continued differentiation among and within types of institutions, but envisages new means to improve linkage. This combined structure differs from Alberta's earlier fragmented model that prompted the separate and discordant growth of agricultural schools, colleges, institutes and universities. The combined development model also differs from the binary model which segregates non-university institutions from universities. This cleavage was perpetuated by the establishment of our twin-commission system of coordination.

Federation through combined development is both a desirable and an achievable aim for the next decade or two. Thereafter, integration based on a more comprehensive model of higher education as part of a system of recurrent education will probably be required.

The combined development model for performing the career and integration functions common to all higher education institutions can work most effectively if institutional mandates are self-identified. In this way, client needs, institutional resources and faculty aspirations are more likely to be harmonized. Thus, detailed development plans should be the responsibility of each institution. Such plans, however, must not be produced in isolation. They ought to be determined in consultation with all other institutions in the higher education sub-system and with the Department of Advanced Education.

The department's role is one of ensuring federation through coordination. It can do this by providing broad guidelines within which individual institutional planning can proceed. These guidelines should encourage complementarity in program development among institutions in order to provide diverse opportunities without unnecessary duplication of effort.

This part of the report seeks to define a few preliminary guidelines for organizing higher education as a basis for launching more detailed planning at both the provincial and institutional levels. Some of these guidelines have to do with the types, numbers and sizes of institutions required to meet future demands. Insofar as numbers are concerned, the answer seems clear. It will not be necessary to establish any additional institutions of the conventional type for at least the next 15 years. Indeed, we may choose never to build any others.

Present institutions, when expanded, can provide sufficient student places in the province as a whole to meet the expected demand for the kind of learning situation that they have to offer. However, this does not necessarily mean that places will be available in each student's home area. Many students welcome and enjoy the opportunity to attend an institution away from home and feel this experience represents their first chance to be truly independent. Such an opportunity for independence is expected to be sought even more eagerly in the future than it is at present. Moreover, it is anticipated that the personal cost of this experience may be offset by improved methods of financial assistance. Meanwhile, students who must stay at home or who wish to do so, or who cannot be accommodated in a nearby institution, will be able to utilize the Alberta Academy, described on page 98.

Any attempt to maintain a places-close-to-home policy would likely result in some institutions becoming too large for effective learning. Others would remain uneconomically small. In addition, this policy would fail to tap the vast potential for broad and meaningful experience offered by activities like travel, and the use of technological learning systems. There is even the danger that headstrong pursuit of a places-close-to-home policy would bankrupt the province.

For the next decade or two, many young people may not want to participate in a higher education program, at least not immediately upon completion of basic education – nor should they be expected to do so. In fact, it cannot be shown that all young persons will benefit sufficiently from participation in higher education to justify their time and the expenses involved. Thus, universal participation at this higher level is likely to remain an improbable and questionable aim for the remainder of this century. On the other hand, universal access for those who wish to pursue higher education, and who demonstrate their ability to progress and to profit, is an attainable aim to which Albertans can aspire.

Attacks mounted against the barriers to higher education should include alternatives specifically designed to assist young people coming out of a basic education. One promising strategy for accomplishing this has been termed an age of majority plan. The key idea is that everyone upon reaching the age of majority ought to qualify for a start-in-life non-repayable grant awarded through the provincial government. Upon receipt of a starter grant, each person would be free to select any opportunity applicable to his or her situation. Certain individuals might use the capital to start a small business, others may choose a training course that does not ualify for government subsidy, still others may invest in travel r in higher education. Obviously, such a plan–with or with- ut supplementary repayable loans–opens the door to a wide ariety of experiences and learning opportunities. And it is ot without precedent. After World War II, the Veterans' ehabilitation Program was based upon a philosophy of un- mited career choice. Also, starter grants are in common use cross Canada in the field of housing.

During the '60's, increases in enrollment at higher educa- on institutions were consistently high. Today, that trend as altered with respect to the universities. A preliminary xamination of this change suggests that it is a temporary henomenon caused primarily by the downturn of Canada's conomy. Economic stagnation has given rise to student essimism about employment prospects; lack of summer em- oyment for students; and a reluctance to give up jobs due the feeling that others might not be forthcoming. Present nrollment decreases might–just might–also reflect how udents have been treated by universities. Two other factors rectly affecting Alberta would appear to be the growth of is province's college system–which has impinged upon ojected university enrollments; and recent changes in stu- ents' assistance arrangements–which have made funding omewhat harder for certain students to acquire.

In addition to the likelihood that economic conditions may nprove before long, a number of other factors suggest that e demand for higher education will grow during the next two ecades. One factor is the positive correlation between basic ducation enrollments and those of higher education. As articipation increases in senior schools, participation in col- ges, institutes and universities, which is still relatively low, an be expected to increase. Also, social demand for higher ducation will continue to rise in response to the knowledge xplosion, the need for more highly qualified manpower and e personal benefits to be derived from advanced study. upport for this position is to be found in the United States here, currently, the participation of the 18 to 24 age group higher education is almost double that of Alberta's. Another gnificant factor that will generate future growth has its roots the present widespread disparities in participation due to ocio-economic status, racial origin, geographic location and sex. Policies aimed at overcoming these discrepancies and achieving equity will lead inevitably to an increase in total demand for higher education.

Educational authorities must not, therefore, be lulled into complacency by the current low growth phenomenon. A process of continuous enrollment review in terms of trends and potential demand must be undertaken by both the Department of Advanced Education and the constituent institutions in the higher education sub-system. Based on this review, and consistent with the concept of the self-selected mandate, it is appropriate that each institution should, in collaboration with the Department of Advanced Education, establish its own enrollment ceiling as a planning target. In the final analysis, the department, exercising its coordinating role, must undertake responsibility for the ratification of institutional enrollment ceilings in order to ensure that sufficient student places will be available in the province. Ranges within which each institutions enrollment ceiling might fall are noted later.

The Commission's full-time enrollment estimates shown in Table 1 reveal that the '70's will see continued expansion in all sectors of higher education. However, the decade from 1980 to 1990 will bring relatively little enrollment growth in the more conventional institutional programs. Thus, the '80's will create an opportunity for consolidation and reexamination of the efforts of colleges, institutes and universities.

It should be noted that with the burgeoning part-time student enrollment, the full-time student unit is rapidly losing its validity as a basis for planning. One of the tasks to be undertaken in the immediate future is to devise and adopt a different unit for planning and accounting, such as full-time equivalent students or student-course hours.

Table 1
Estimated Full-Time Enrollments in Higher Education Institutions for Selected Years[1]

Institution	1975	1980	1990
Colleges and Institutes[2]	25,000	33,000	40,000
Universities[3]	35,000	50,000	60,000
Total	60,000	83,000	100,000

[1] Enrollment projections for the Alberta Academy are not included in this table.

[2] Colleges and institutes had combined enrollments of 16,500 in 1970/71. This figure also includes the student bodies at all Alberta Vocational Training Centres, hospital-based schools of nursing and several special-purpose training institutions.

[3] University enrollment in 1970/71 was 29,000.

universities

While each of Alberta's four universities may be expected to perform the discovery, career, criticism and integration functions discussed in Section II, the emphasis placed upon each function will, of course, vary from one to the other. The University of Alberta and the University of Calgary, with their well-established graduate studies programs, will be more concerned with the discovery function than will be the two smaller universities. Differentiation with respect to the career function will arise as each institution seeks to serve distinctive occupational needs. The manner of performance and the substance of both the criticism and integration functions will tend to mirror specific institutional and community factors.

university of alberta

The major effort of this university should be concentrated upon senior undergraduate and graduate studies. The career function would, therefore, focus primarily on professional occupations. The discovery function continues to warrant high priority at the University of Alberta, particularly with respect to northern development. Concentration upon senior level studies carries with it the danger that research and development might be over-emphasized to the detriment of learning and teaching. Care must be taken to ensure that this does not occur.

The University of Alberta ought to be encouraged to emphasize the achievement and maintenance of quality in existing activities and programs closely related to future needs. Obsolescence or redundancy in programs and courses is a luxury which Albertans no longer can afford. The creation of new programs and the expansion of existing programs should occur only after the need for them has been very carefully assessed. A major indicator of this need is society's requirements for various categories of qualified manpower. For example, it appears necessary to expand enrollments in dentistry and rehabilitation medicine programs so that Alberta's future health care requirements can be met. Conversely, enrollment expansion in preparation programs for basic education teachers seems unsound; particularly in view of the surplus forecast for Alberta and throughout Canada during the next 10 years. Science and engineering programs also require careful reexamination in relation to the unfavorable employment prospects anticipated in those fields.

An appropriate enrollment ceiling for the University of Alberta lies somewhere between 20,000 and 25,000 full-time students. Internal reorganization of this university will, no oubt, be hampered by its already large size, confining phys- cal facilities and entrenched interest groups. Nevertheless, xtensive realignment of programs and personnel is vital in elation to changes in the process of education and the use f resources for learning envisioned throughout subsequent ortions of this report.

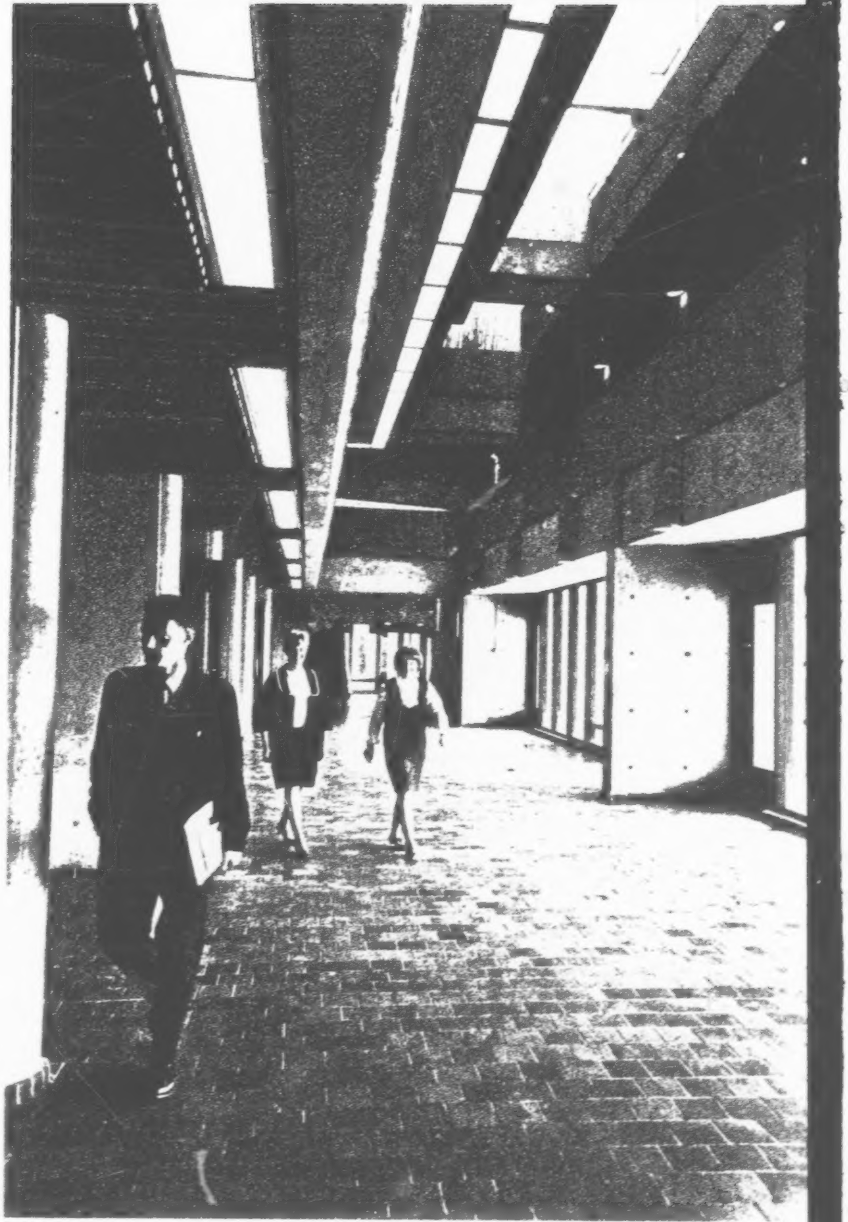
niversity of calgary

algary should continue to divide its efforts between under- raduate and graduate studies. Compared to the University f Alberta, which will have an undergraduate university in lose proximity, the University of Calgary can be expected to ive more attention to junior undergraduate programs. This nstitution too, must strive for excellence in a few areas rather han continuing to expand program offerings or to perpetuate utmoded ones. Duplication of programs offered at the niversity of Alberta, especially those of a specialized and ostly nature, ought to arise only when it can be demonstrated hat the province and the nation will require the graduates, nd that the programs at the University of Alberta are in- apable of meeting the need. On the basis of this criterion, here is no apparent reason to establish programs in agri- ulture, dentistry, law or pharmacy at this institution. On the ther hand, studies in the education of exceptional children, ediatrics and rehabilitation medicine probably will require reater attention.

A suitable long range enrollment target for the University f Calgary falls in the area of 17,000 to 22,000 full-time tudents. It would be very unwise, however, to let enrollment n the present site move toward 22,000 without substantial hanges in the deployment of students and staff, and in the se of material resources. At least three changes in organi- ation merit careful scrutiny. One would be to accommodate ost of those enrolled on the same site, by reorganizing the niversity on a house or cluster college basis. A second pos- bility involves building or leasing facilities elsewhere in algary. Such facilities would be linked to the main campus r purposes of administration, and for the provision of upport services such as libraries, laboratories, physical ducation and recreation. A third alternative would be to erve at least part of the student body through the delivery ystem advocated for the Alberta Academy.

niversity of lethbridge

view of the capacity for graduate studies and research the University of Alberta and University of Calgary, and ecause of its small regional population base, the University



of Lethbridge should continue to concentrate upon undergraduate studies in arts, education and science. A major challenge will be to blend the integration and career functions in ways that will ensure both individual growth and community benefit.

Concentration of this nature is not meant to inhibit the development of related programs that go beyond the present scope of those already offered. An example might be a management arts program intended to enhance the capacity of Albertans to work within the framework of humanist values noted in Figure 2. Additionally, this institution might offer certain pre-professional transfer courses where demonstrable need and career opportunities exist.

The discovery function at the University of Lethbridge ought to be directly related to its basic undergraduate instructional mission and to its community outreach activities. These latter activities require careful coordination on a regional basis with those of the Lethbridge Community College.

It is important to preserve the small size of the University of Lethbridge. This action will guarantee the alternative of an intimate university atmosphere within Alberta. Nevertheless, this institution should grow large enough to offer a reasonably diverse program–and be economically viable. It is suggested, therefore, that the long range enrollment target for the University of Lethbridge be established in the neighborhood of 3,500 to 5,000 full-time students.

athabasca university

Athabasca is not intended to be a conventional university. It will have neither graduate programs nor professional schools. It will not undertake the extensive research activities typically found in large universities. Although called a university, Athabasca will be, in effect, a three- and four-year degree-granting university college for undergraduates. It will stand midway between the community or regional colleges of the province and the universities of Alberta and Calgary. This stance should provide the basis for further and future diversification of the opportunities available to Albertans in higher education. The process for achieving this objective embodies a unique blending of the career, criticism, development, discovery and integration functions described in Section II.

The Commission on Educational Planning strongly endorses the academic concept or model that has been advanced for this institution. Athabasca includes among its aims the personalization of learning, the binding together of community and university for mutual benefit and a 12 month continuous operation. These aims promise to give voice to many of the changes in higher and further education outlined in subsequent sections of this report. Consequently, Athabasca University can constitute a laboratory for testing future cost-effective alternatives in learning and teaching, organization and governance, and the use of human and technological resources. For example, Athabasca will be the first university in Canada to be organized around a central theme—Man and His Environment. This theme is expected to find expression in interdisciplinary studies stressing the application of knowledge in four basic fields: the humanities, communications, human community and environmental problems. An integral part of each student's program will be employment or field placement designed to demonstrate ways in which what is being learned is of use to both society and the individual. These approaches to program operation and the career function are in tune with what the Commission foresees as one of the major waves of the future.

In view of the close proximity of the University of Alberta, the translation of the Athabasca model into programs must be closely synchronized with those of that institution, as well as Grant MacEwan Community College and the Northern Alberta Institute of Technology. Integration must also be effected with the proposed Alberta Academy. Such collaborative programming will yield the options and complementarity necessary in the greater Edmonton region. Professional preparation during the fourth year at Athabasca would be greatly facilitated by this form of interchange. Certain programming could be offered to Athabasca on a contract basis by other institutions which now have, or could more efficiently add, appropriate facilities and personnel. Hopefully, this fourth year will be thought of as the first of a series of after-degree lifelong learning experiences.

While the need for the development of Athabasca University is not as urgent as it was thought to be when the institution was established, the recent slow-down in university enrollment growth does not constitute a sufficient reason for delaying initial construction. There will be a time lag of several years between the beginning of physical planning and the graduation of the institution's initial students. Unless the birth of the Alberta Academy is hastened, it would appear necessary that the first module be in operation by 1975-76. This module would consist of about 650 students with 25 to 30 faculty members, plus a learning resource unit. The suggested planning target for this university over the next two decades is 5,000 to 8,000 students. But 2,000 students and a cluster of three modules would be a probable minimum for viable operation. Therefore, in the interests of efficiency, it may be wise build to this latter level immediately, while slowing the pace development at the University of Alberta.

On the other hand, if the ACCESS broadcast network and sociated learning systems proposed in Section VI come to being, then the Athabasca University concept might live d grow apart from a campus in St. Albert. As the Alberta cademy's host university, it could flourish in a variety of community outposts that would not require extensive capital expenditures.

Irrespective of its physical form, the underlying concept of this institution must not be lost. Its application is an essential ingredient in the transformation of higher education in this province.

colleges

The Alberta college system has grown rapidly during the past few years, indicating that there is a pervasive and rising demand for this type of higher education. The geographic dispersal of the colleges has increased educational opportunity outside of Edmonton and Calgary by bringing higher education programs to most of the larger urban centres in the province. The population forecasts with respect to the growth of urban areas suggest that even greater numbers of Albertans will have ready access to these institutions in the decades ahead.

Alberta's three agricultural-vocational colleges were recently transferred from the jurisdiction of the Department of Agriculture to the Department of Advanced Education. This was an excellent move. The next step is for these institutions to become fully integrated into the public college sector. This implies substantial alterations in their traditional functions.

The agricultural-vocational colleges have tended to offer diploma programs to farm youth in isolation from the main stream of educational opportunity. A few limited programs for technicians are being offered but most are quite inadequate in terms of present and future demands. To fill the vacuum, private industry and other educational institutions have developed courses of study in neglected areas. Moreover, because of their low enrollments, these institutions have been an extremely expensive form of higher education.

Program realignment at the college level is occurring also in the field of nursing. Registered nursing programs are now in the process of being transferred to colleges from four hospitals in Alberta. This transfer of responsibility to institutions where the primary concern is education is appropriate, long overdue and in accord with a number of submissions made to the Commission.

The remaining hospital-based schools of nursing throughout the province should be phased-out at the earliest possible date and their functions undertaken by neighboring colleges. A number of allied health programs, which have been conducted in special purpose institutions, ought also to be offered instead by the colleges or, perhaps, the technical institutes. Included in this category are courses for nursing aides, nursing orderlies, psychiatric nurses, mental deficiency nurses and dental technicians.

There are several reasons for this proposed consolidation. Overall quality of the programs may be expected to improve because of the colleges' capacity to supplement vocational courses with general education. Emphasis would be placed on education rather than mere training and practice. One consequence of this broader opportunity could be the adoption of a perspective that would improve the ability of graduates to deal with patients as whole persons.

Certain economies will occur by bringing together a number of basically similar health programs that could share a common core of courses in the biological sciences and the social sciences. This expanded potential will create greater opportunity for the development of a team approach in the preparation of all auxiliary health care personnel. The inclusion of diploma nursing in Alberta's colleges should make it possible to offer most of these health programs at more locations in the province. Moreover, the strong leadership of a concerned and involved coordinating body, like the Department of Advanced Education, would help to alleviate many of the difficulties arising from present haphazard arrangements.

Decisions regarding the placement of auxiliary health care personnel programs in either colleges or institutes should be made on the basis of which type of institution can best offer each program. Obviously, these decisions will be influenced by factors such as the location of the required instructional personnel, equipment, closely related courses in their own and neighboring institutions and facilities for clinical experience.

Consistent with their development, integration and career functions, all colleges should continue to offer one-year programs of a vocational nature, academic upgrading and further education opportunities. University transfer courses must be available in those locations that do not also have universities. In addition, the programs of colleges outside of Edmonton and Calgary require broadening to include transfer courses of a technical nature. After one year of technical studies in a college, students could complete their work by taking more sophisticated courses at one of the two institutes of technology.

The existing policy that prohibits a college located in the same city as a university or technical institute, or in close proximity to another college, from offering duplicate programs warrants continuation for at least the next decade. This constraint will encourage the colleges to pursue their own distinctive missions, while avoiding wasteful competition and duplication between institutions serving the same constituency.

Beyond the foregoing general policies and proposals, which apply to all colleges, lies the realm of special situations and possible areas of future emphasis for individual institutions.

fairview college

Fairview's facilities are seriously under-utilized. Due to its location, and the demographic characteristics of the surrounding region, the present population of this college's service area is substantially below the usual minimum required to sustain a viable operation.

Better utilization of Fairview's resources should be encouraged through program diversification geared to regional needs. Initially, this distinctive role could be realized through the offering of academic upgrading courses, one- or two-year vocational programs and technical transfer courses. At the same time, Fairview might serve as a centre for Metis and Indian higher education. This role could be carried out both at the college and in the northwestern native communities. Once undertaken, service to native peoples would have to be carefully coordinated with all other educational authorities and agencies in the region.

In its new role, Fairview College could operate either as a separate institution or as a satellite of the Grande Prairie Regional College. Regardless of the college's status, Fairview's programming must take careful account of the functions undertaken by the nearby college in Grande Prairie. Inappropriate and costly duplication must be avoided.

The present basic program in vocational agriculture, transferable to Olds, should be maintained. The farm at Fairview could continue to be operated by the Department of Agriculture, with an arrangement for college use in connection with its agricultural courses.

A necessary and suitable role must be found for Fairview within five years. Failing this development the college might be efficiently converted to other uses, such as a rehabilitation centre for alcoholics or a facility for the handicapped.

lethbridge community college

To a major degree, the future strengths of this college can be based on the opportunities it presently provides. Consequently, increasing emphasis should be placed on technology transfer courses, which may be completed at one of Alberta's technical institutes, and on basic courses in vocational agriculture transferable to the more sophisticated programs at Olds College. If the developments foreseen in early education materialize, then training programs for learning assistants at this level may become an appropriate specialty at this institution.

Lethbridge Community College could play a central part in future regional development by offering to assume a leadership-service role. Once developed, this role would move beyond integrating the college's efforts in further education with those of nearby schools and the University of Lethbridge. The college could help focus the combined resources of every educational organization in the region on problems requiring integrated educational, social and economic planning.

grant macewan community college

The unique nature of this institution's dispersed campus concept is well-suited to meeting many of the future higher education needs of Edmontonians. But intensification of MacEwan's efforts in the inner-city is essential to ensure improved life-chances for the unemployed, the poor, and native peoples. Similarly, provisions for women to obtain marketable skills through stretched-out, part-time study programs and field placements warrant special attention.

This college might also seek to develop a distinctive capability in the preparation of health care personnel, such as nurses, nursing aides and orderlies. Another related area of specialization could be the preparation of learning assistants to aid in the schooling of exceptional children in early and basic education.

grande prairie regional college, medicine hat college and red deer college.

Because they are the only higher education institutions in their respective cities, these three colleges have a responsibility for comprehensiveness which exceeds that of the colleges in Edmonton, Calgary and Lethbridge. These institutions must provide a variety of services: general education, vocational education, university and technical transfer courses and extensive further education opportunities. Close collaboration with adjacent vocational high schools will be required when decisions are being made that affect technical studies.

Regional development should be of particular relevance to the colleges at Grande Prairie, Medicine Hat and Red Deer. Therefore, in defining their future objectives these institutions will need to assess and to stimulate the growth potential of both tourism and secondary industry within their constituencies. Each of these institutions should also clarify their specific contributions to the preparation of auxiliary health care personnel, to family life or family living studies and to persons in various kinds of rehabilitative and penal institutions.

mount royal college

Mount Royal's new central facilities and satellite campuses open up many unique opportunities for service. Acquisition of the Churchill Park campus in downtown Calgary will set the stage for expanded efforts in academic upgrading and vocational programs for lower socio-economic groups. Also, this location will make it possible to cater more easily to the further education requirements of persons employed in commercial establishments. Similarly, the recently-established Old Sun campus on the Blackfoot Indian Reserve at Gleichen holds much promise for effective performance of the emancipation and career functions for native peoples. And the individualized multi-media approach to instruction, which will characterize the main campus, offers an unequalled setting for the preparation of learning assistants for employment in the schools of tomorrow.

Like many of the other colleges, Mount Royal ought to define its particular contribution to the preparation of health care personnel. A reexamination of its role in serving persons in rehabilitative and penal institutions also deserves attention.

olds college

Olds College has a novel role to play as the only institution in Alberta specializing in agricultural education. Accordingly, it should feature more sophisticated programs in technology, marketing and management suited to the rapidly changing agricultural industry. Forestry technologies also might be stressed in collaboration with the Grande Prairie Regional College.

In addition, Olds might offer a limited number of courses that would be transferable to the technical institutes. In fact, it might operate as a satellite of SAIT in connection with selected programs. The close proximity of Red Deer College creates a corresponding need for complementarity in programming. The distinctive mission that has been suggested for Olds College will accomplish this while avoiding the emergence of costly low enrollment programs.

As a logical extension of its central role in agricultural education, this college could serve as the major continuing education centre for farmers and persons in other occupations related to agriculture. This would, in fact, be a return to a significant and familiar role played earlier in this century.

vermilion college

This institution will flourish to the extent that it develops into a regional college offering one- and two-year vocational programs, academic upgrading, some university transfer courses and a limited number of technical transfer courses. In addition, a basic program of vocational agriculture, transferable to Olds College, could still be offered.

Whether or not a satellite or sister campus is required to complement Vermilion College in serving the eastern part of Alberta will have to be determined on the basis of a careful evaluation. A start on this kind of assessment has been made already in the Vermilion Planning Report of the Department of Municipal Affairs, which projects population trends, regional characteristics and land use in 1991, and in studies undertaken by the Colleges Commission. Joint study with appropriate authorities in Saskatchewan will also be necessary.

The Department of Agriculture apparently plans to establish an applied research centre at Vermilion. The farm should, therefore, remain in the custody of that department. As suggested for Fairview, arrangements could be made to use the farm for the instructional needs of the college.

college enrollment targets

Long-range planning enrollment targets for each of the nine colleges are noted in Table 2. These full-time enrollment ranges correspond with the shifts in roles previously suggested, and are intended as guidelines for institutional planning to 1990. They are also in accord with the policy of providing sufficient student places to meet foreseeable demand in the total provincial system of higher education.

The target enrollments for the colleges in Calgary and Edmonton may appear to be rather large, raising fears of a lack of personalization at these institutions. This problem will be largely overcome through dispersed facilities. In no case will all the students be accommodated at one location.

Table 2
Estimated Full-Time Enrollment Ranges
for Colleges to 1990

College	Enrollment Range
Fairview College	400 — 600
Grande Prairie Regional College	1500 — 2000
Grant MacEwan Community College	7000 — 8000
Lethbridge Community College	1000 — 1400
Medicine Hat College	700 — 1000
Mount Royal College	8000 — 9000
Olds College	500 — 800
Red Deer College	1000 — 1600
Vermilion College	400 — 600
Total	20,500 — 25,000

alberta vocational training centres

The Alberta Vocational Training Centres in Calgary and Edmonton should be amalgamated with the community colleges in those cities. At present the AVTCs offer narrowly based academic upgrading programs funded in large measure by the federal government through Canada Manpower. If that source of funds was to decline or be suspended entirely, these institutions would either have to cut back or embark upon programs that might infringe unduly upon general college offerings.

Upgrading activities generally performed by AVTCs could be easily accommodated in our colleges. The needs of persons like those now served by the centres can probably be better met by broadly based college programs. More alternatives and opportunities would be opened up to each individual because of the college emphasis on development of the whole person. At the same time, the presence of these more-experienced persons would help to diversify and enrich institutional life within the colleges.

Unquestionably, the other major Alberta Vocational Training Centre, at Fort McMurray, ought to continue in its special role at least for the next few years, but it should be classified under further education for administrative purposes. Within two decades, the Fort McMurray area may see the establishment of more major extractive industries, accompanied by the development of a number of secondary industries. If this should come about, the population in that region would increase dramatically and the need for more extensive educational services would emerge. In those circumstances, this training centre could develop into a new type of higher education institution, which would incorporate some features of a regional learning centre, a community college, a technical institute and an academy outpost. On the technical side, it would seem preferable for the institution to avoid, as much as possible, duplicating programs elsewhere. Instead, it should offer relatively unique programs, such as mining technology, which would be specially suited to the needs of the region and its people.

Bringing the AVTCs into the mainstream of recurrent education by amalgamation and reclassification will help resolve two interrelated problems these institutions now face. One is the lack of long-range planning in regard to their future role and contribution. The other is their inability to participate effectively in coordinated efforts directed at overcoming the problems of the poor.

The small Alberta Vocational Training Centre at Grouard appears to be poorly located in terms of concentration of population and proximity to significant job opportunities. Hence, continued operation in its present form is difficult to justify. The conversion of this facility to some other use of greater benefit to northern Alberta seems appropriate. Some of the alternative uses that merit investigation, in relation to future requirements of the region, include a treatment centre for drug addiction, a custodial and training institution for juvenile offenders or a place for serving the mentally ill.

institutes

Alberta's institutes of technology have developed in a way that makes them very different from colleges and universities. For the most part, their special character reflects the institutes' remarkable capacity for anticipating and responding to Alberta's occupational requirements in technical fields. With this proven capacity for self-renewal, NAIT and SAIT are likely to remain very adaptive institutions.

Among the adaptations that tomorrow must bring is a better blending of the career and integration functions in engineering-related technologies, health science technologies and the trades, including apprenticeship programs. At the same time, the development of basic level technical programs in the colleges and AVTCs will require them to orient their activities more toward senior programs of a specialized or sophisticated nature.

Some non-technical programs, like those in the social service occupations, ought to be transferred from the institutes to the colleges. Other courses, such as those in business, might have their growth curtailed. This action would tend to provide space for the expansion of technical offerings while achieving economies through better utilization of specialized personnel and equipment. Another advantage gained by moving non-technical programs into colleges is the ease with which they could then be related to allied fields. Increasing the graduate's long-term occupational adaptability in this manner avoids the danger of narrow training that acts as a brake on vocational mobility.

If the emphasis on credentials persists in our society, degrees might someday be awarded upon completion of institute programs that involve appropriate rigor and scope. This is already happening elsewhere. For example, polytechnical institutes in the United Kingdom have begun to offer degrees for completion of certain technology programs and Ryerson Institute in Toronto is contemplating similar action. The more advanced programs at the Alberta College of Art, plus those that could be developed in a few of the engineering technologies, are obvious candidates for such credentialing. This is not to suggest that the institutes be diverted from their distinctive missions. These institutions should not model themselves after the fashion of university faculties. Nor should their degree programs–if and when they are offered–require more than three years of study. Instead, institutes must strive to complement university offerings by maintaining their operational orientation and their concern with the application of knowledge, rather than its advancement. The awarding of degrees, other than in selected programs in art and engineering technologies, may be somewhat premature before 1980. But it will command attention thereafter if the entry level into many occupations and subsequent advancement remains tied to the status of one's initial credential.

It is recognized that many programs will continue to be common to both of Alberta's technical institutes. Nevertheless, as in the case of colleges and universities, there must be differentiation between the two with respect to specialized programs. As the need for new programs becomes apparent their allocation to one institute or the other ought to reflect regional requirements, the location of related programs and the extent to which obsolete programs are being phased out.

southern alberta institute of technology

It is expected that this institution will continue to feature programs in the applied arts, aviation technologies, health science technologies and the trades. SAIT's long-range planning enrollment target is suggested as 6,500 to 8,000 full-time students by 1990.

Operating as a department of this institution, the Alberta College of Art now offers courses in advertising art and the fine arts, including fabrics, metal, painting, pottery, ceramics and sculpture. One or more additional options, such as artistic design, may be offered when the college's new facilities are completed in 1973. Because of the similarity of these art programs to those offered by the universities of Calgary and Alberta and the Banff Centre, closer coordination of the work offered by all four institutions will be necessary to ensure prudent use of resources. At the same time, particular attention must be devoted to the transfer of credits from one institution to another, and to relationships with the two special senior schools in the performing arts proposed earlier on page 71.

An associated area of greater specialization for SAIT might be radio, stage and television arts. Additionally, the potential importance of tourism in Alberta's future economy appears to justify more attention to hospitality-oriented occupations. Such programs would seem to be logical extensions of those now offered in food service preparation and hotel, motel and restaurant management.

northern alberta institute of technology

Points of concentration for NAIT are seen as the engineering and petroleum related technologies, resources management and pollution control, health science technologies and the trades. A future specialization might be in materials and plastics technologies. In the health sciences a stronger emphasis on dental service programs is warranted. Indeed, the programs for dental hygienists and auxiliaries currently offered at the University of Alberta might be transferred to NAIT. This would serve to free some space for expansion in dentistry at the former institution.

An enrollment of 6,000 to 7,500 full-time students by 1990 is envisioned as a reasonable long-range planning target for this institution.

private colleges

Private colleges will continue to play their familiar role in higher education in Alberta by providing for diversity while complementing the programs of public institutions. It is anticipated that these institutions will cater to a very small number of students. Consequently, they cannot be expected to affect to any significant degree the enrollments in the public colleges, institutes and universities.

Provided that they are approved by the Department of Advanced Education, private colleges deserve partial provincial support. Such support should relate only to those courses or programs that are accredited by the department and are readily transferable to public institutions in Alberta. Although these colleges will want to preserve their independence, a condition of their approval and financial support ought to be the requirement that they maintain a working relationship with the Department of Advanced Education with respect to planning and coordination. In this way, confederation rather than separatism can flourish in higher education.

One example of the potential for using a private college to complement public institutions is the role in religious studies that could be played by the Newman Theological College in association with the nearby Athabasca University or the University of Alberta. Another is through the extension of performance contracting arrangements like the one undertaken by Alberta College in connection with the Priority Employment Program. Still another lies in the application of the regional learning centre concept by an institution like the Camrose Lutheran College.

proprietary institutions

These institutions, otherwise known as registered trade schools, offer occupational preparation courses that are usually of short duration. Because of the nature of the training offered, and the limited clientele served, these schools may be expected to operate as long as there is a demand for their services. These institutions must remain responsible to the provincial government with respect to standards of instruction and program content, condition of facilities and levels of fees charged. Since registered trade schools are operated for profit, they cannot lay claim to any public funding, except in the cases of special manpower or performance contracts.

In the decades ahead, we may see the development of informal institutions organized in much the same way that medical clinics are now. These perhaps would be best described as learning clinics. Each might be owned and operated by a small group of qualified educators. Some learning clinics might specialize only in human skills, others in technical skills. Some might see as their clientele the housewife interested in broader experiences, others might attract disadvantaged youths anxious to gain a start toward a professional career. Still other learning clinics could develop their own special ways of helping people who have been turned off by conventional approaches. The possibilities seem limited only by our ingenuity and the availability of risk capital. Such opportunity for the educational entrepreneur, properly exploited, could aid in the transformation of schooling by providing for a reassertion of consumer power. If proprietary institutions of this type are to be encouraged, the provincial government would have to modify its funding policies, and existing institutions and organizations would have to alter their admission and certification practices.

a new delivery system

Yesterday, society's advances stimulated man's tastes for personal knowledge. Today, that taste has been supplanted by nutritional need. Tomorrow, that need will become an imperative hunger. What was once a well-ordered pattern of information-flow is now a surging mosaic of new knowledge, new technologies, new and changing occupational functions and a rising social awareness–awareness that now, even to stay the same height, one must keep on growing.

We live in a time that offers a choice of not whether–but of where, how and what we must learn. In higher education, such questions highlight the problem of access to our conventional institutions. Geographical distance, the necessity of staying employed, the difficulty of meeting formal admission requirements, and even the rigidity of life-roles will continue to make higher education inaccessible to a growing number of Albertans.

We like to think of our institutions of higher learning as being available to all. Attendance is seen as easy for most and only slightly inconvenient for the rest–depending on their level of aspiration and their economic status. But, in reality, it has been not only inconvenient but impossible for many to attend. The new Students Finance Act may be an effective tool for alleviating inconvenience but it is inequitable in the long run. While the cost of education is the same for many, differing salaries after graduation vary each individual's ability to repay a loan. Everyone gets the same treatment under the new plan and there is no provision for subsidization of those whose need is greatest. Furthermore, although interest rates on the new plan are reasonable and up to 25 percent of the

loan is subject to later remission, the gross debt is larger and more intimidating than under the former plan, which included grant as well as loan money.

Distance is perhaps the greatest single reason for inaccessibility to education in Alberta. Not only is it difficult to serve all our rural residents, but the extension of complete service to Alberta's urban population also appears to be impractical. It is very likely that 80 percent of our population will be urbanized by 1980. But this implies residence in a town or city of 1,000 or more people. Presently, there are nearly 70 communities of this size that do not possess a higher education institution. These factors leave many citizens far beyond reasonable commuting distance to any source of advanced education.

What, then, of the student whose family cannot afford the expense of a son or daughter or perhaps several children living away from home? What of the individual who needs a regular salary, but who wishes to advance in our society by obtaining additional knowledge? Shall we continue to shortchange these productive people because they or their families happen to live in the many hundreds of cities, towns, villages and hamlets without higher education facilities, instead of the dozen or so which do? What of our native peoples and the rural poor who are afflicted with the same geographical separatism?

The difficulty of attaining higher education can be seen in major and minor urban centres, as well as in rural areas. A lack of formal entrance requirements will, at the very least, lengthen a student's overall course of study. The economic consequence of this, particularly for married students, is often serious. Upgrading one's basic education can often delay the higher learning goal by one, two or more years. The economic results of such delays, particularly for married students, are often insurmountable. Even evening or part-time higher education can be impractical where one's job requires travel, erratic periods of overtime, or a higher level of commitment–all of which deter regular attendance and study. Often life-roles are not compatible with attendance requirements at conventional institutions. As an example, women oriented towards a home and children find that these full-time responsibilities interfere with the desire for intellectual development in a formal setting. All of these problems are presently compounded by the lack of summer and part-time employment opportunities and an uncertain economic climate. These problems force some, who once saw higher education as a means of bettering their present employment, to maintain their position rather than chance a labor market that is tight even for graduates in the professions.

Essentially the whole question of access to higher education is a moral one. Can our society continue to offer the benefits of improved knowledge only to those who can afford it? Surely, as argued earlier, we must respect the right of each Albertan to enjoy this opportunity regardless of socio-economic status just as we respect his personal imperative for greater self-fulfillment. If we were to employ certain incentive devices to overcome the current under-representation in higher education of females and persons from low-income families and smaller centres, enrollments would quickly increase. And if we could deliver higher education to people where they want it–and when they want it–in the ways that they want it–the increase in enrollments would be dramatic. The very thrust of this report is at orchestrating greatly increased participation in recurrent education. If the Commission's call for a structure and resources to support lifelong learning is heeded at all, we may expect much larger enrollments of both full and part-time students in the years ahead.

All these conditions suggest the need for a new approach to higher education in Alberta: one that can offer socially relevant programs on a part-time basis, at less cost and with assured transfer of credits to higher education institutions across the province; one that would be flexible enough to meet sudden changes in enrollment; one that would operate close to the student's home and place of employment. But how could we possibly finance education for such large numbers of geographically-dispersed, new and different clients? How could we assess the readiness and upgrade the qualifications of large numbers of new and differently-prepared clients for education? How could we readily respond to sporadic, sometimes unforeseen, fluctuations in demand? How could we take education to these new and different clients or, alternatively, bring them to education? These are the challenges of a system of recurrent education based on lifelong learning. Confronted by these challenges, our present institutions and financial bases–while capable of some extension through longer operation, shift systems, imaginative programming and prudent fiscal policy–are not likely to be equal to the task. Therefore, one way of helping meet these challenges is to establish a completely different type of institution: the **Alberta Academy.**

character of the alberta academy

The Alberta Academy would be aimed at the distinctive needs of lifelong learning in Alberta. It would represent a break with the institutional tradition of a central place for learning.

Students would not be required to go to the academy, for the academy would go to them. While it would have some of the characteristics of the British Open University and certain campus outreach programs offered in Newfoundland, Prince Edward Island, New Brunswick, Ontario and Quebec, its structural dynamics could not easily be compared with those of any institution the Commission has encountered.

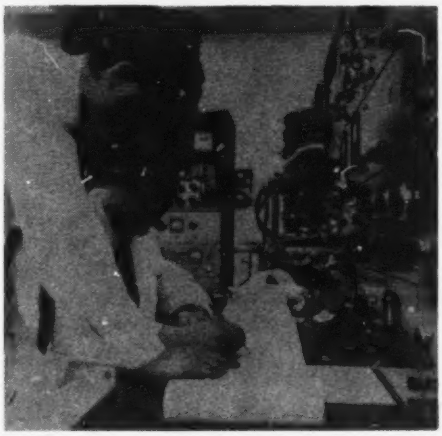
The academy would employ a wide variety of learning media, including television and radio broadcasts, cable-vision, correspondence, telephone and tape technologies. It would also place equal stress on interpersonal communications, including tutorials, group learning, peer learning, community support and social activities. The emphasis will not be on mass education through mass media, but on individual instruction through the efficient management of technology and human resources.

The academy would employ personalized learning systems in much the same way that they have been envisioned by Athabasca University and by the University of Calgary's Learning Technology Unit. In fact, these systems could be jointly developed by all three bodies–and by others, such as Mount Royal College, now actively investigating the learning system method. At its heart, a learning system consists of learning modules, such as a combination of books and other print materials, audio and video tapes, slides and tutorial and/or seminar sessions which systematize a single topic–often along lines similar to the inquiry method of teaching. These modules are capable of many combinations, in sum or in part, so that each institution might create a course to its own distinctive requirements. In fact, so might each user.

The academy, too, is like a learning system. Its whole concept is based upon extreme flexibility so that response to social and economic change can be immediate. Its services may be combined and permutated in endless ways–full-stream or part-stream, in one direction or in many directions, to serve thousands or tens of thousands in traditional ways or in radically different ways.

While the Commission may talk of courses and credits and degrees and classes in order to introduce the academy concept, the future may not tolerate such traditional notions at all–indeed, these notions are being questioned in reputable quarters right now. No matter. The academy has the innate capacity to be higher education's all-terrain vehicle.

While the academy would have no campus and be neither a university, nor a college, nor a technical institute, it would act as a staging agency for, and provide entrance to, all of these institutions–or to others, as they are created. In fact, it might be thought of as a concept rather than as a place. While it would grant no degrees itself, the academy could offer transfer credits towards degrees and diplomas–as well as offering an individualized diploma program of its own. And it is reasonable to expect that there are now thousands of people in our province waiting for the kinds of opportunities that could be provided by the Alberta Academy.



What really counts in education is what is built inside a student–not what is studied inside a building. The campus of the Alberta Academy would be under no particular roof. Its location would be in air waves, telephone lines, mail routes, living rooms, businesses, community buildings, learning resource centres and tutorial offices spread across the province. The Commission believes that the individual's own motivation, his desire to learn and grow, should play a more central role in the formulation of educational policy. Ideally, the attainment of higher education should represent a positive act of individual will, rather than passive acceptance of an institution's routines and requirements. The academy would strive for a closer approximation of this ideal. One of the ways in which this can be achieved is by developing course content that would stimulate individual inquiry.

The academy would occupy a position of considerable leverage in the Alberta educational system. It would offer a new road to higher education–a road with a bridge at the end. Registration in the academy would be open to all, regardless of their educational credentials. Not only would those mature students seeking greater educational opportunity be able to use this road, but so would those students coming out of Alberta's newly-flexible schools. The term newly-flexible is used for good reason: secure in the knowledge that there was a road to higher education other than the matriculant diploma mill, students could undertake different, and more individually relevant, basic education programs. And educators would not be afraid to structure and promote these new programs. Nor would parents be reluctant to have their children take them.

From the standpoint of quality, the academy would not be satisfied with equivalent standards: it would seek improvement in the general level of higher education. Its courses would be developed by the very best talent available, using worldwide resources and sophisticated methods which would assure high quality materials of tested educational validity. Already such materials are being developed in other parts of the world and the opportunity now exists for Alberta to join Ontario and other provinces in joint Canadian production. Generally, the academy's core program would be patterned along the lines of the foundation year recommended by the U.S. Carnegie Commission, with built-in remedial opportunities for those who come to the program without sufficient preparation. The foundation year would be interdisciplinary–an ideal often attempted but seldom achieved by established institutions, where discipline boundaries can be like armed borders and not enough resources are available to mount an invasion.

The diploma program of the academy could begin once four courses from the foundation year had been completed. We can think of no better words to describe this diploma program than Community Life and Self Development. If this description sounds gauche, then so be it. The point is, people want what these words suggest–personal growth, good friends and a better place to live. These courses would include research projects and mini-courses aimed at improving rural life, the local environment, the economic climate and cultural development. They would also include optional study topics such as child development, small business management, agricultural extension, human rights, group leadership, recreation management and community planning. Finally, there would be many opportunities for the development of personal insights and attributes–in both the arts and the sciences.

At its outset, the academy would offer only a limited number of courses, but certain of these would provide wide individual option. Courses would really be of two kinds: those that form the foundation year would constitute the equivalent of first year in an Alberta university or college–and would be transferable; those that form the diploma year would constitute a self-development framework with considerable room for the student to tailor his own program–probably these courses would not be transferable.

Because the Alberta Academy would cover such wide ground, the Commission recommends that it be established and operated by the Department of Advanced Education, in close consultation with all of Alberta's higher education institutions, public and private. It will be no small matter to link the academy's course offerings with those of existing institutions. Historically, it has been difficult to transfer credits between higher education institutions, even where two institutions were offering courses of identical description. Since the academy's foundation courses will be unlike others currently offered, it is likely that the Department of Advanced Education will wish to assist in the establishment of a transfer agreement.

Surely a beginning agreement can be reached whereby other institutions would accept the academy's foundation year program for transfer as a single unit, thus honoring the integrity of a fellow institution. For students not completing the foundation year, it follows that institutions would also be willing to accept say, three-fifths of a year of academy work as a unit, for entry and advanced credit toward their own first year programs. Further, the institutions should be willing to acknowledge the transfer of individual courses within that unit.

The core segments of the academy's foundation year would be developed as a series of radio and television programs. Given the financing suggested, these programs could combine the best audio-visual materials available from outside sources with the best materials we are capable of producing in this province. The transferability problem might be eased, and the full social and economic benefits realized, if the use of these programs does not end with the academy's students. The programs would be freely available for closed circuit use by all other educational institutions. Obviously, the use of these programs in or as first year courses at the universities and colleges would greatly facilitate the transfer of course credits between all institutions, including the academy.

Further, other Alberta institutions utilizing the academy's audio-visual materials could realize some worthwhile financial benefits. It was demonstrated in a recent Ontario study on televised university teaching that substantial cost savings could be obtained in situations where the number of students taking a given course was reasonably large and the average class size was sufficiently small. Cost comparisons in the study provided for a major investment in TV production and for the expense of tutors to supplement the televised lectures. The employment of the academy's media materials in other Alberta institutions would compare even more favorably because these materials would be supplied at no cost to the institution. Freed of the high cost of media production, participating institutions would have to finance only the complementary tutorial expenses.

The foregoing draws attention to the fact that the creation of the Alberta Academy, which is valuable in itself, would have a second benefit–its existence would be an important pressure for change in the existing institutions for higher education. While the scope of the academy concept is wide, its activities have been purposefully aimed at a single critical stage in our educational system–that stage of emergence from basic education and the beginning of higher education. The academy would develop a delivery system for this stage using the ACCESS network described in Section VI; once it is developed, other institutions should be encouraged to use it–to offer courses for second and third year students enrolled in their programs. Eventually, it should be possible to earn a degree by this route.

As will be shown later in the sub-section on cost benefits, the Alberta Academy would be committed to the provision of higher education on a more cost-effective basis than is currently evident in this province. Not only would the academy be intended as a more economical means of providing higher education from the public purse; it would also offer economies to the student. The academy would also serve as a pilot model for Alberta in the application of technology to education–an application with total commitment to the belief that technology and humanist values can, and must, advance together–an application that can bring us one step closer to the person-centred society as described in Figure 2.

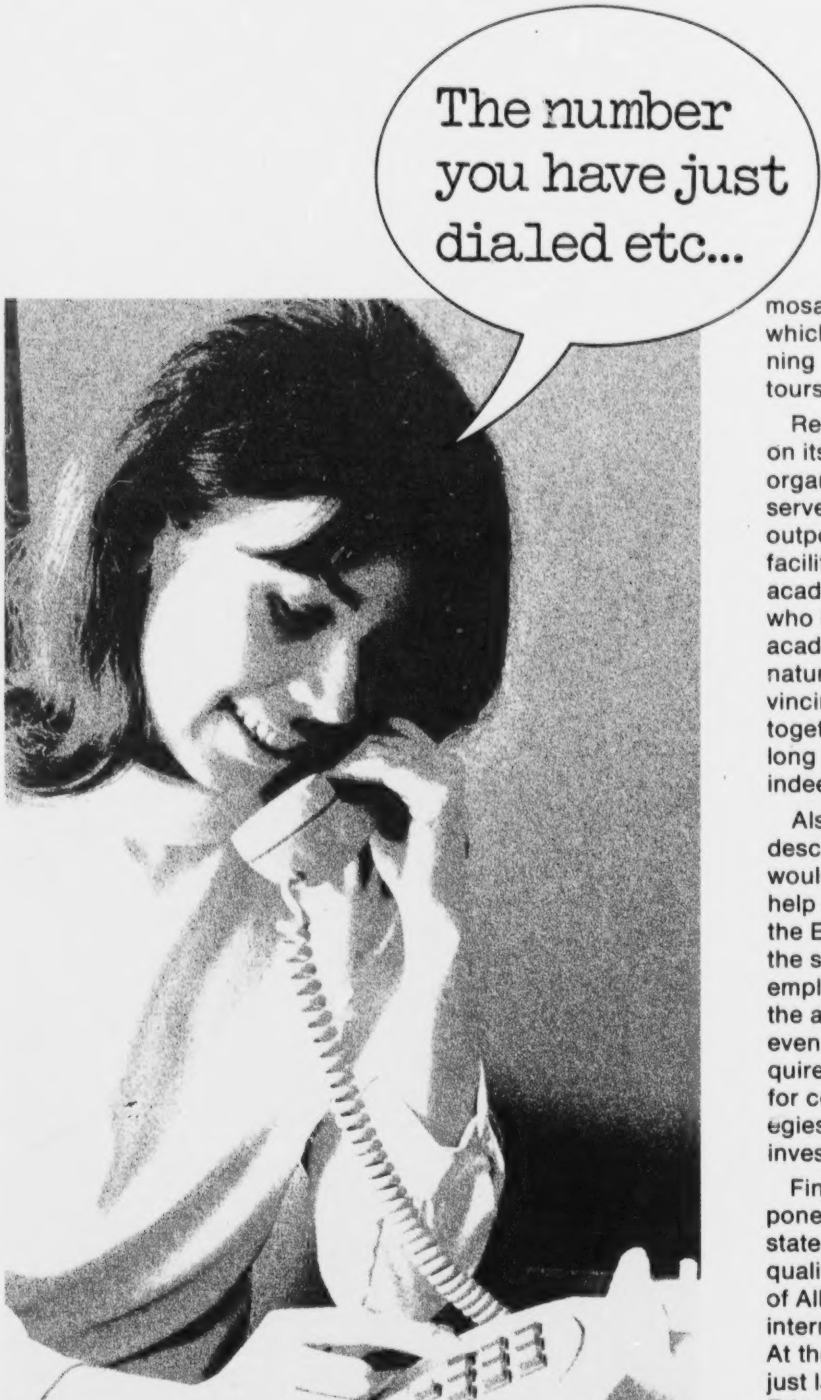
additional learning strategies

Some of the principles advocated by Ivan Illich in *The Deschooling of Society* are, in fact, operative in the academy concept. Therefore, some of Illich's strategies might also be worth consideration. Each registrant in an academy course could receive the names, addresses and phone numbers of others in his community who are taking, or have taken, the same course. Peer learning consultation would provide an additional support system, both to the student and the academy. Tutors could assist in the orchestration of these peer support systems. Some of Illich's ideas concerning the identification of teaching masters within a deschooled society are also worth investigating.

In certain geographic instances, and with certain courses, mobile campus trailers should be employed to bring learning support services to academy students. Their use would be similar to that envisioned by George Brown College in Ontario.

In the 1830's, hunger for knowledge led to the grass roots establishment of the Lyceum Movement in the United States. It developed into a North American network of more than 3,000 town study groups. During the first third of the 20th century the Chautauqua movement, half reading circle and half tent show, became even more popular and at its zenith in 1924 was bringing educational motivation to millions, including many Canadians. In the '30's and '40's, CBC's *Farm Forum* and *Citizens' Forum* radio programs became community events with discussion groups meeting in living rooms, schools and community halls across the country. *Farm Forum* was the most popular single radio program on the prairies. The Department of Extension at the University of Alberta helped to organize these programs and supplemented them with locally relevant follow-up activities, which were eagerly joined by tens of thousands of Albertans. After the Canadian experience, similar programs were developed with great success in India and Africa.

While television and other mass media may have satisfied part of the hunger for knowledge, and the academy program may satisfy more of it, the social dynamic of the movements we have described still awaits our use in the last third of the 20th century. Indeed, 15 years of research in adult ETV programming has shown us that the most effective programs were those employing community listening and viewing groups, volunteer teachers and social interaction. The Commission sees distinct possibilities for endowing the academy programs with similar grass-roots popular support. Why not Academy Clubs as well as Toastmasters' Clubs and Lions' Clubs? Why not community corporations as foreseen in the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mosaic campus being planned by Conestega College in Ontario, which would enable local citizens to participate in the planning of academy activities? Indeed, why not academy travel tours, academy fairs and academy communes?

Recently the Royal Canadian Legion has been speculating on its role in the future. There is feeling within this closely-knit organization that its original purposes have now been largely served. It is suggested, in all earnestness, that the Alberta outposts of the Royal Canadian Legion consider turning their facilities over to higher education to be managed by the academy, or by other institutions such as Athabasca University, who have envisaged community outposts as part of their academic concept. Further, there is no reason why the social nature of these legion outposts should change. It can be convincingly argued that darts, shuffleboard, beer and billiards, together with the warm atmosphere of comradeship, have long made significant contributions to higher education – indeed, to all forms of education.

Also intriguing are a variety of strategies that might be best described as people helping people. For instance, there would be some academy students who would freely wish to help other students enrolled in the academy program, or in the Early Ed or basic education broadcast programs – just for the sake of personal fulfillment. Still others would welcome employment as part-time tutorial assistants while enrolled in the academy program. Certain of the academy courses might even include experience as a learning helper as a study requirement; for instance, help in a day-care centre as requisite for completion of a unit in child development. These strategies for providing significant life experiences warrant closer investigation within the academy concept.

Finally, some specific mention of the correspondence component in academy programs must be made. It may be fairly stated that Alberta is already one of the world's leaders in the quality of its grade school correspondence instruction. Some of Alberta's correspondence courses have been adopted internationally – most recently by the United Arab Republic. At the same time, the Correspondence School Branch has just launched credit courses on MEETA (Channel 11) in Edmonton that combine written work with television viewing and phone-in discussion on radio station CKUA. This evidence of Alberta's reputation in correspondence work, and of the innovative methods currently underway, is given to demonstrate further that the academy concept really is attainable. The Department of Advanced Education, therefore, already has available some well-oiled machinery that could assist the academy's implementation. And, of course, another source of strength for this endeavor is some of the planning which has been done in connection with Athabasca University.

illustrative organization

How might the program of the Alberta Academy be organized? What kinds of people, places and things would be required to offer it? Only illustrative and partial answers to questions like these can be given at this time, their purpose being merely to aid in understanding the concept and demonstrating its feasibility. Implementation must await the preparation of a full-scale development plan by the Department of Advanced Education. However, it is worth mentioning here that Alberta does not presently have the population base to support a full academy degree program. Degree programs require a wide range of optional subjects in their senior years; this would entail the development of many courses, each of which would serve relatively few registrants. Such a move would imperil the economic feasibility of the academy, which is based upon few courses and large registrations.

It is suggested that 12 courses might be developed: six interdisciplinary first-year foundation courses; six diploma courses in Community Life and Self Development. As an example, only the foundation courses will be referred to, and in very broad-brush and conventional terms:

(1) Man and Mankind (history, religion, and the arts)
(2) Communications (writing, oral and visual literacy)
(3) Modes of Reasoning (logic, philosophy, mathematics)
(4) Technological Man and His Environment (science, technology and natural law)
(5) The Human Community (psychology, sociology, anthropology)
(6) Man and Country (Canadian studies in geography, ecology, economics and politics).

During its first year, the academy would offer courses 1, 2, 3 and 4. Registrants would be restricted to carrying no more than three courses. The completion of courses 1, 2 and 3 would allow entrance to any college or university in the province, with three-fifths of a year's credit. Completion of courses 2 and 4 would offer entrance and advanced credit at any technical institute. Completion of course 2 and any four other courses would constitute a full year's work at any university or college. Completion of course 2 and any three other courses would allow entry into the academy's diploma program. Course offerings during the academy's second and subsequent years of operation would likely rise to six or seven

and would be staggered so that certain courses would be offered every year, others once every two years.

Each course would consist of 30 correspondence papers, 30 half-hours of television programming, one half-hour per week repeated at varying times on both broadcast and CATV systems, supplemented by radio presentations and talk-back opportunities, and at least one two-hour tutorial per month. Tutors would be available for more frequent consultation and would be stationed in as many as 20 different regional locations, hopefully none more than 50 miles distant from any client. In addition to being located in cities and towns having institutions of higher and further education both public and private, tutors would also be at the regional learning centres referred to earlier on page 76. Probably, still others would be required in places like Athabasca, Brooks, Cardston, High Prairie, Lac La Biche, Oyen, Rocky Mountain House and Wainwright with access to local learning resource units, as well as to the entire provincial learning resource network described in Section VI.

Frequent telephone communication, initiated by both tutor and student would be provided for. In addition, where living room groups could be congregated, blackboard by wire systems, which use telephone lines, might be employed. The tutors would be the students' direct source of contact with the academy and would mark all correspondence papers. These tutors would be competent in at least two courses, and some in four. Initially, each tutor would run 100 course registrants, and tutorials would be set for 10 participants. Since 112 teachers now run 18,000 course registrants at the Correspondence School Branch, and still devote much of their time to course development, this tentative ratio should provide a comfortable margin for both marking assignments and tutorials.

When economically feasible EVR (electronic video recording), and other television cartridge systems (be they tape, foil or film), and CAI (computer assisted instruction) could be easily integrated into the total learning package.

preliminary cost estimates

Again, for purposes of illustration, it is possible to outline in a rough fashion some of the probable costs of the Alberta Academy. The cost estimates which follow in Tables 3 and 4 have been calculated on the least number of registrants consistent with an effective operation. Larger enrollments would thus result in lower per student costs. A further possible cost saving could result because certain television courses are already available that closely parallel the academy objectives. For instance, the British Open University courses are available for export, and the Ontario Educational Communications Authority, in conjunction with Waterloo University, has produced a first year credit course entitled Communications 100. If substantial parts of these courses are suitable for use by the academy considerable economies would be effected. Similarly, the academy and Athabasca University might collaborate in the development of program software. Many production sharing possibilities exist in this area, as well.

The estimates are based on 10,000 active course registrants, counted after courses have been in operation six weeks. Since no student may register for more than three courses, the actual number of students, as opposed to registrants, would be a minimum of 3,334. Because many students will take only one or two courses, the actual student body is estimated at 5,000. The likelihood is also recognized, based on the experience of others, that a substantial number of students will not complete the course in which they are registered, despite every effort by the academy to support their study.

Table 3

Preliminary Cost Estimates for the First Three Year Cycle of the Alberta Academy Assuming 1975 Operation.

OPERATING COSTS	
Production of four courses per year at $400,000 each plus allowance of $100,000 per course for validation, testing and revisions.	
4 courses at $500,000 each (includes television, radio and correspondence development. Costs for radio and television are direct costs only–including academic consultants, producers, writers, performers, graphics, sets, film segments and royalties. Indirect costs such as studio facilities and technical crews are subsumed under ACCESS estimates in Section VI).	$2,000,000
Distribution (Tape movement only, see ACCESS for broadcast costs.)	60,000
Tutorial Costs	
100 tutors at $14,000 each	1,400,000
Travel	100,000
Central Coordinating (Staff of 30, plus office services, rentals, materials, printing.)	500,000
Mailing and Telephone Costs	70,000
Total	$4,130,000
REVENUE	50,000
The academy would aim at being the first institution to implement free higher education. Because of the overly-optimistic nature of some learners, however, a cautionary fee of $20 per course is deemed advisable, refundable on successful completion. Revenue estimated is from this source. Revenue from sale of course materials outside the province is included in the second three year cycle.	
TOTAL ESTIMATED OPERATING COSTS or $408 per student, per course, per year.	$4,080,000

CAPITAL COSTS (TABLE 3)

Coordinating staff and tutors would generally operate from existing facilities. Hence, no capital costs for buildings are included in these estimates. Funds for rentals and minor equipment costs are included under operating costs.

While the radio and television industry commonly amortizes the costs of productions that are intended for repeated use, the Commission has not done so because it complicates the purposes of this presentation. This procedure would, of course, reduce annual operating costs considerably.

Table 4

Preliminary Cost Estimates for the Second Three Year Cycle of the Alberta Academy: 1978 to 1981.

OPERATING COSTS

Since all 12 courses intended for offering would have been produced prior to the entry of this cycle, only the costs of updating would enter into operating costs. Calculations are based on major revision of each course once every three years at 40 percent of its original costs.

Updating, per year (4 courses at $160,000 each.)	$ 640,000
Distribution	80,000
Tutorial Costs	1,700,000
Travel	115,000
Central Coordinating	600,000
Mailing and Telephone	80,000
Total	$3,215,000
ESTIMATED REVENUE (Includes sale of materials outside province at modest rate.)	250,000
TOTAL ESTIMATED OPERATING COSTS or $297 per student, per course, per year.	$2,965,000

These costs do not include purchase of broadcast time necessary for transmitting academy programs; nor do they include rental of studio space and technical equipment needed in production. In the industry, these are known as indirect costs of production. These indirect costs would be charged against the capital costs and the operating costs, listed later in connection with the ACCESS network. They are not shown here because the ACCESS studio and transmitter network will be serving many other learning purposes in the province besides those of the academy. It is estimated that the academy would use no more than 15 percent of the total capacity of the ACCESS broadcast network.

cost benefits

Some general cost comparisons can be drawn from the preceding data. For instance, the average yearly cost per student, per course, of the academy can be estimated at $352 over the six-year period 1975-81. If we consider that five such courses constitute a full year of work, then $1,760 would be the cost of maintaining a full-time student for one year. This compares with the average cost of maintaining a student in Alberta's universities of $3,385 (in 1970-71). Since the cost of maintaining a graduate student is considerably more than that of an undergraduate, it would perhaps be better to use the sum of $1,726, which is an estimate (1970) by the University of Alberta to maintain a first-year student in the faculty of arts, $1,832 in the faculty of science. Meanwhile, the average per student expenditure in our colleges and institutes was $1,967 in 1970-71. Since the academy's costs have been calculated three to nine years into the future, and the others are two years in the past, the academy's program can be considered advantageous.

While the capital costs of the academy have not been subjected to intensive analysis, it can be safely assumed that they are much lower than those associated with any of the colleges, universities or technical institutes. As a guide, it might help to consider that Alberta's colleges calculate that a student place costs $5,500 in the capital costs of building and equipment. Places for 3,334 students–the number of full-time equivalent students anticipated in the academy's beginning stage–would, therefore, cost $16,670,000. This sum would cover the capital costs associated with the academy several times over. The capital costs of the entire ACCESS radio-television network are estimated at $31.1 million. Since the academy would use no more than 15 percent of the total capacity of this network, capital costs associated with the academy may be set at $4.5 million for purposes of rough comparison. Further, these capital costs are a one-time-only charge and will not change appreciably whether the academy enrolls 1,000 students or 100,000.

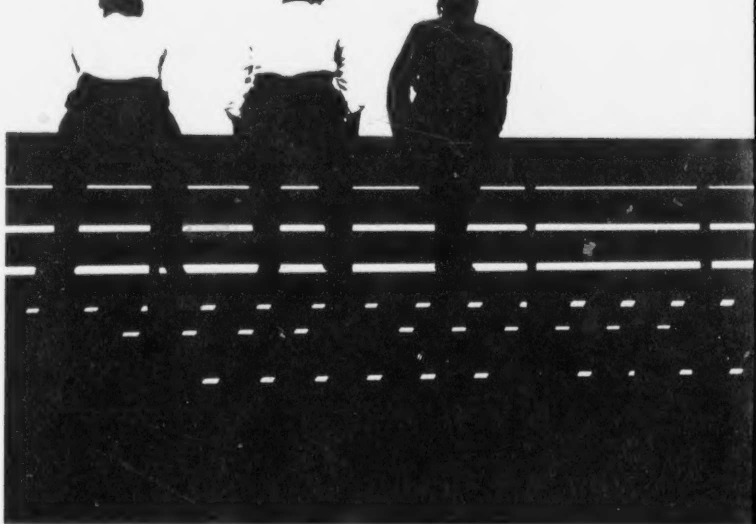
What benefits or economies would accrue to the individual student? First of all, he is spared the fee for his courses. Freshman fees currently average about $400 at universities, $200 at colleges and $50 at technical institutes. Next he is spared the expense of living away from home, and the loss of income from the full or part-time job he could hold while attending the academy. Typically, about 50 percent of Alberta's higher education students borrow money each year from the Educational Opportunity Fund administered by the Students Finance Board, and the average loan in 1970 was over $700. Since the likelihood of need for a loan to attend the academy is rather remote, this represents a saving in indebtedness for the student, and a saving in money from the public purse, which is used to help finance student loans.

Another benefit that would accrue to both the individual and to society relates to the cost of exploratory study, which tends to culminate in a very high drop-out rate among first-year students in all institutions of higher education. For example, both the University of Alberta and the Northern Alberta Institute of Technology report attrition rates of about 15 to 20 percent in first year, while preliminary calculations from Mount Royal College show closer to 30 percent. While there are obvious benefits to completing a year's work, there are also individual benefits which can come from exploratory study and stopping out. A student could obtain these latter benefits at less cost to himself through the academy. At the same time, the conventional institutions would not have to devote as much capital and operating costs to finance this sort of study.

Successful operation of the Alberta Academy would have many cost and program implications for all of Alberta's higher education institutions. A flourishing academy would tend to lower the first year entrance rates of other institutions as well as their first year attrition rates. While the academy might serve as a testing ground for some students of unproven ability, it must not be used as a dumping ground by other institutions. Therefore, while the academy's existence might slightly alter the composition of other freshman student bodies, it should exert no radical influence. Hopefully, it would send on a larger number of well-prepared mature students to these other institutions. Extension departments, night schools, crash readiness programs and various other place-bound adult education ventures would, undoubtedly, feel the academy's impact, with some growing busier and some experiencing a drop-off in activity. It also seems very likely that those students entering the colleges, institutes, universities and various further education programs from the academy will have learned the skills of independent study. On balance, the academy should have a very positive influence on Alberta's other institutions for schooling.

But the greatest benefit of all would occur in an area where costs are incalculable. This would be in the growth toward self-fulfillment experienced by the thousands of Albertans who otherwise could not have received this opportunity for higher education on an intermittent basis. Nor would this benefit be restricted just to those who are course registrants. Everyone who owns a television set would be exposed to the course offerings of the academy, whether a formal student or not. As noted in Section II, the ideal of lifelong learning cannot be achieved through formal procedures alone. Such learning is largely a matter of opportunity. So is the Alberta Academy.

And let us not forget what will be happening meanwhile to those communities where students are enrolled in the academy's diploma program. When people change, the places in which they live change. And that is what the future is all about.



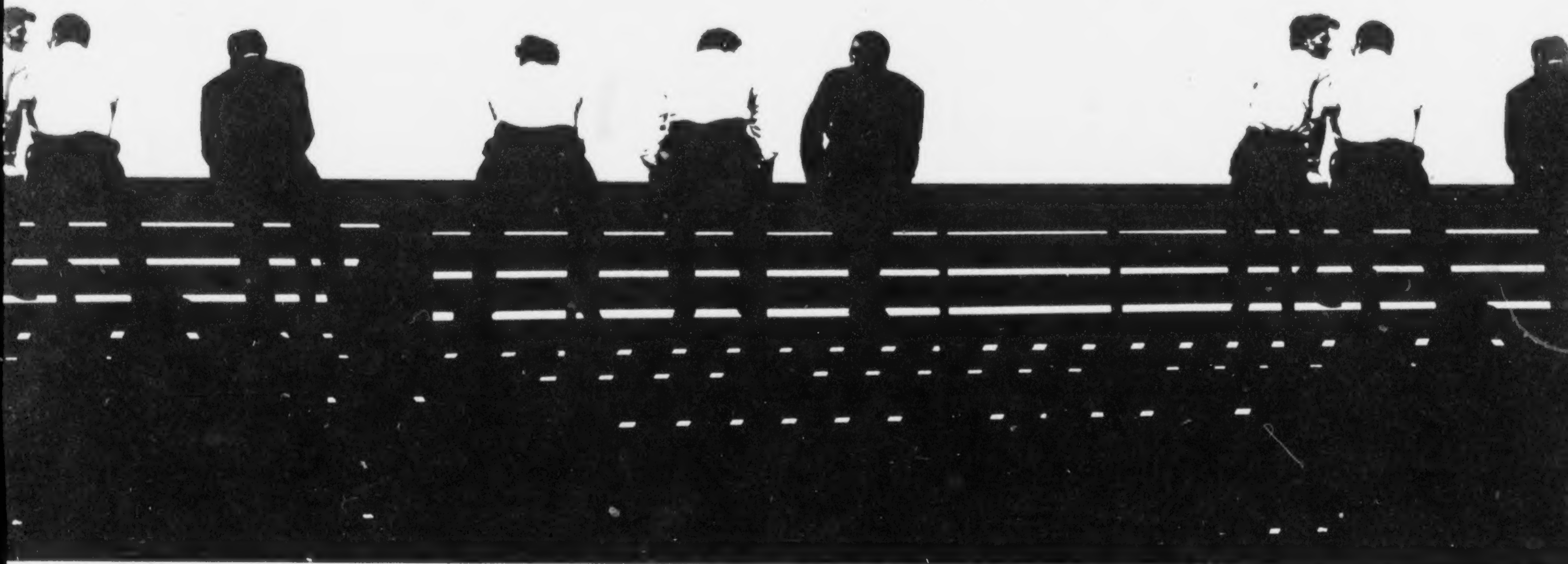
further education

That safe, sure, secure feeling that an initial level of schooling once engendered is about to evaporate. The knowledge explosion, and the speed with which information becomes obsolete, will soon reduce the value of both career experience and original education levels. The more recently trained the individual is, the more attractive he will be as an employee or career-associate. This devaluation of experience is reinforced in each succeeding generation by the fact that more young people tend to stay in school for a greater number of years. To illustrate, while only 57 percent of our students between the ages of 14 and 17 were enrolled in our basic education system in 1951, 96.5 percent were participating in 1970. The resulting intergeneration gap could have serious consequences for the older segment of our population–who are likely to find themselves at an information and skill disadvantage. Consequently, a need for further education will eventually be felt by almost every Albertan.

Moreover, as the people of this province find themselves in possession of increased leisure time, their need to fill it with some meaningful activity will increase. Many will turn to further education for the enrichment associated with learning for pleasure. Still others will see institutions or learning systems offering instruction in activities associated directly with leisure or off-job time as a means of developing skills leading to what today might be thought of as non-careers–a kind of personally gratifying and socially sanctioned avocationalism.

But, above all else, there exists one fundamental factor that will increase participation in further education. It is the simple connection, of which we are always receiving confirmation, that the more formal schooling one has received, the more one seeks in adult years. We know from the improvements in the holding power of our secondary schools, and the heavy enrollments in higher education, that the level of schooling of Albertans is increasing. Hence, the massive expansion of further education is yet to come.

Lifelong learning is here to stay–and our institutions for schooling have no real alternative but to prepare accordingly. Our educational system has just begun to understand and reckon with the implications of Alberta's future, and to witness the consequences of mass education. Now it must prepare for the revolutionary force of further education.



requirements

Most persons will continue to participate in further education on a part-time basis. A causative condition will be the reduction and concentration of work time. A number of European countries are finding that part-time education is less expensive than full-time, when account is taken of lost production and lost wages, in addition to the cost of full-time teachers, physical space requirements and other resources. These savings, which accrue to both society and the individual, are apparently achieved without any decrease in quality. Albertans will, undoubtedly, choose to be guided by this experience when planning the further education component of a recurrent education system suited to the 21st century.

Because the growth of further education will be a response to new and growing needs, the programs and courses offered will be largely unfamiliar. In such circumstances, this type of schooling must seek the student and not the reverse. In other words, further education must be actively marketed. Repeated surveys designed to ascertain learning needs ought to be followed by widespread publicity to show that new opportunities for increased knowledge and retraining are available.

Information about new programming will be particularly valuable to those presently classed as under-educated. Today in Alberta, and throughout much of the world, further education participation rates for persons with less-than-average schooling are well below those of the more educationally advantaged. For example, participation rates for blue collar workers are substantially lower than those for the white collar or professional occupational groupings. The simple reason for this state of affairs is that blue collar workers in need of further education often take courses on the job. And since most blue collar jobs rarely require further education a much lower rate of participation results.

Employers and labor unions must be encouraged to negotiate day release periods so that schooling can become a part of regular work schedules. The opportunity to learn while you earn would help to create a more positive attitude toward further education among those previously turned-off by the prospect. To encourage release time for learning, careful study is warranted of a tax incentive or learning subsidy plans for business and industry that would eventually bring private enterprise into partnership with public institutions in the development and expansion of adult education programs.

Even the professional person is confronted with a number of obstacles that make continuing education difficult to pursue. The immensity of the task of merely keeping up with, to say nothing of keeping ahead of, the avalanche of new data may induce the professional to take refuge in learning only the superficially operational material that results in an increased income, or that protects him from the grosser errors of his daily professional life. Another obstacle currently confronting the professional is the trend toward corporate and group practice that is contrary to the life-style for which he was originally prepared. For example, more than 44 percent of the members of the legal profession in Canada are now employed in industry or the public services, and the proportion of those in private practice is diminishing. The same trend is to be seen for accountants of whom about 55 percent are already in salaried employment.

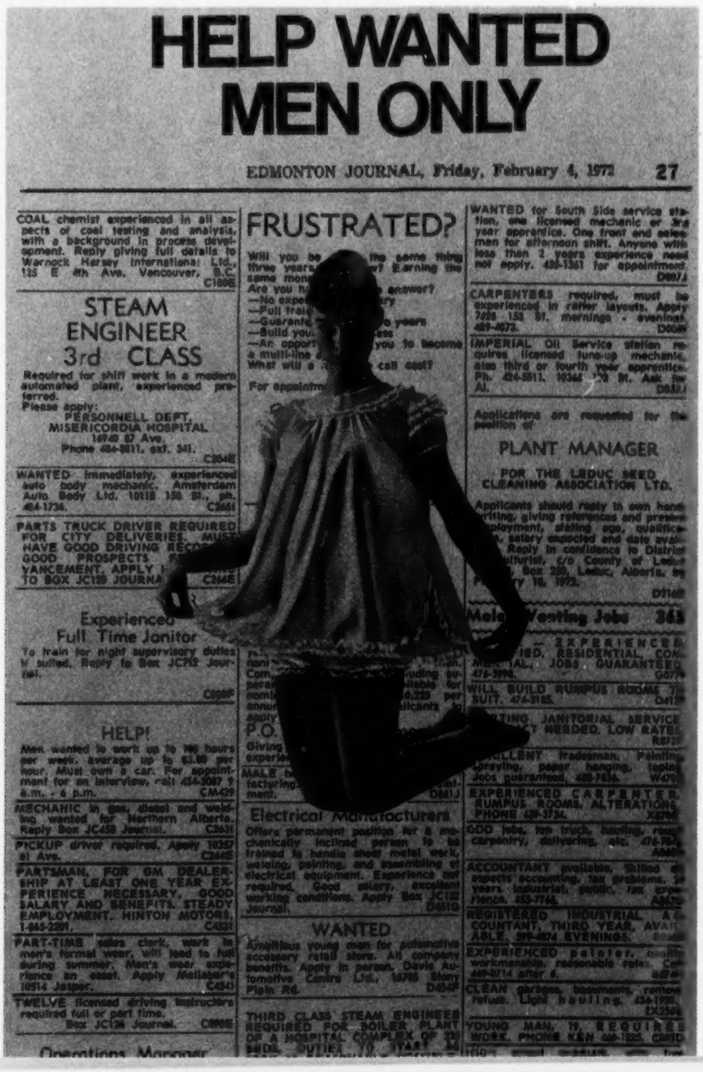
Still another obstacle to continuing professional education is the expense. The successful physician, lawyer or architect could lose several thousand dollars during a month of renewal education; others such as social workers, pharmacists and clergymen might have difficulty financing such an undertaking.

If it is not possible to bring the professional person to continuing education, the obvious alternative is to reverse the process. An illustration of how this can be done is to be found in the University of Saskatchewan's dial-access and information-retrieval program, which utilizes 350 tape-recorded messages to aid physicians in diagnosis and treatment. This kind of technological alternative, plus part-time sessions in local or regional centres throughout the province, may be the only feasible future method of providing continuing education opportunities, at reasonable cost, to most professional groups in Alberta.

It is obvious that mere improvement in future further education programs for women will not suffice. There must be change–a massive and pervasive change. Their sex and mother-homemaker role still constitute serious handicaps to rewarding career development. The image of certain professions is essentially masculine, so that professions which in other countries are practiced by a significant proportion of women are virtually reserved for men in Canada. Out of 6,000 dentists in Canada, only 1.5 percent are women; whereas in Greece, for example, the percentage is as high as 25 percent. A recent survey covering 84,000 bank employees showed that, while women were substantially in the majority, only 29 of them occupied posts as managers. In spite of the growing number of female students in higher education, the percentage of women in professions with high qualifications is still low in Canada: 0.5 percent in architecture, 4.5 percent in the physical sciences, 2.5 percent in law, 15 percent in pharmacy, and 3.5 percent in optometry. Meanwhile, the outlook for women in teaching, their traditional professional haven, is bleak.

The career lock-out of women is disturbing, but it is a relatively minor irritation in comparison to the frustration and despair induced by a constant thwarting of less tangible social, intellectual, spiritual and emotional requirements as documented by the Royal Commission on the Status of Women. Women in search of personal autonomy, social competence and creative capacity must be given much wider and different opportunities for further education. And they are the ones–not the male education administration establishment–who ought to tell us what those learning opportunities should be.

The further education phase of recurrent education requires reorganization so that all Albertans are afforded equitable opportunities to participate. In order that work experience can alternate with formal learning experiences, a system of educational leaves will have to be established whereby each employee is entitled to leave of absence on a periodic basis. To cover the employee's tuition fees and other expenses, an educational fund to which the employer, the employee and the state each contribute might be established. Similar funds have already emerged in France and West Germany. The amount of contributions to such a fund, frequency and duration of leaves, and salary continuance during leaves could be determined through collective, or in the case of non-union employees or self-employed professionals and businessmen, individual agreements. To distribute expenses even more broadly, the public subsidy to institutions for schooling could be supplemented by a tax on employers similar to the British system under the Industrial Training Act. But, as is now the case, the state will probably have to bear the major costs of providing such opportunities for the unemployed and those seeking a second chance.



responsibilities

We must begin to see further education as a consideration wherever people gather. In the future, it is bound to be a major component in the off-job time of most individuals. And, because no other level of schooling plays so broad and diverse a role, the need for distributed service will be intensified. To ensure that further education is easily accessible, we must encourage planning that searches out unique opportunities for the delivery of the services requested. If education is a part of life, it must also be a part of living.

The extension of services or opportunities in further education need not necessarily require the establishment of new special-purpose institutions. Instead, further education programs can utilize facilities for schooling, community recreational and cultural centres, camps, various religious institutions and buildings operated by service organizations. Other areas of accommodation that could be used to advantage are not quite as obvious. Apartment buildings could be the location of programs for tenants, especially retired persons who are in search of new interests to replace work and family responsibilities. Large downtown commercial buildings could be used for lunch-time courses for employees in the area. Even hospitals, where often people are confined for weeks or months, present an obvious potential for discussion groups, as do homes for the aged.

The majority of persons undertaking full-time study, even for short periods of time, will enroll in the future as in the past in regular institutions for schooling. But increasing demand for part-time study opportunities will require that most educational facilities be in operation during times when many are now normally idle.

While further education can take place through existing organizations in available facilities, it must be more than a replica of youth education–for the clientele and their motivation for studying are very different. It is crucial that these differences be reflected in admission requirements, objectives, content, methods and achievement criteria. Special services such as counselling, oriented particularly to the adult student, will be essential.

Our higher education institutions will also have to gear their regular programs to serve increasing numbers of part-time learners. This means recognizing the difficulties and tension that is created for learners who attempt to combine home, work and study schedules, and adjusting organizational practices accordingly. One simple, yet very helpful, adjustment would be to guarantee that the same courses are offered both during the day and the evening. Learners could then arrange to move back and forth depending on personal circumstances. A further assist to these learners would be the availability of a high level of programming on weekends.

Too often in the past, priority has been given to institutional and staff needs, rather than to the needs of the clientele. Partly because the pattern of extension or evening programming does not fit established organizational forms, these activities have low priority within the colleges, institutes and universities when resources are being allocated. In the decades ahead, further education must become a total-institution responsibility. It must cease to be a peripheral consideration.

Much of the knowledge and skill necessary to meet the challenges of tomorrow will be generated in our colleges, institutes and universities. Concurrently, these institutions will be assimilating information from around a world exploding with new concepts, ideas and technologies. The dissemination of these data is obligatory through further education to the individuals and the society that supports them. The dissemination task will become particularly important–and much easier–when our institutions for higher education begin to use the more sophisticated tools for learning described in Section VI. At the same time, these tools in their learning resource units and libraries must be made fully available to further education students. For too long, resource materials have been carefully guarded and jealously preserved for the exclusive use of regular students and staff members.

All our institutions for higher learning have before them a sobering responsibility for leadership training. Nationally the age group between 30 and 45, that group providing management and guidance in organizational affairs, will be relatively small until the middle of the next decade. This impending shortage of leadership talent will force us to develop young people for positions of responsibility at an earlier age. Concurrently, we will have to retain older persons for longer periods in executive categories, while keeping their education up-to-date. Although the population pyramid for Alberta itself does not exhibit this peculiar age-group discrepancy, its existence for Canada as a whole provides a set of career opportunities for our younger citizens that we dare not overlook in a time of job scarcity.

In addition to such shared responsibilities, there is need for substantial role differentiation. Universities ought to concentrate on refreshment and career continuation opportunities in the fields of study in which they specialize, particularly those related to the professions. Generally, colleges could offer basic education upgrading programs, career mobility studies in service occupations and regional development and public affairs education. The mission of Olds College would differ somewhat in view of its unique potential for continuing education related to agriculture. The central responsibility of the two institutes of technology should be to provide technological up-dating and career expansion opportunities in technical fields.

Community-schools and regional learning centres could stress the emancipation, integration and motivation functions by offering upgrading at the basic education level, as well as through home and family life education, community development studies and activities in the areas of recreation and crafts. Additionally, these institutions could be locations for competent adult counselling services. Such services would probably be in demand in each of the major subdivisions within cities and in the large centralized schools throughout rural Alberta.

The potential of the Alberta Academy and the ACCESS network for further education should also be exploited. Their role in further education could be to release the untapped potential of the home as a learning environment. By taking education to the client, where participation can be on the individual's own terms, these two instruments will help Albertans to glimpse and prepare for the shape of things to come. It is possible that refinements in electronic technology may soon permit home-shopping, executives who work where they live and newspapers delivered electronically. Rather than a base from which to operate, the home could become our life core–a place for work and leisure, learning and pleasure.

The well-known role of the **Banff Centre,** as a provincial and national institution devoted to further education, warrants expansion. Rather than striking out into new areas that would increase the size and change the character of the institution, activity should be centred on the consolidation, upgrading and extension of present efforts. This emphasis might best be achieved by raising the level and quality of the centre's offerings, leaving introductory training to others. Nevertheless, studies in the arts and management ought to retain their emphasis on performance or practice as opposed to theory.

Most of the centre's offerings in the arts are now concentrated in a six-week summer session. In future, these should be extended throughout the remainder of the year. In doing so, needless duplication of fine and performing arts programs offered elsewhere in Alberta must be avoided. One facet of this extension could be intensive short-term courses in the performing arts. Another could involve the offering of certain one- and two-year diploma programs in areas of special competence where demonstrable needs exist. Transferability of credit for the centre's programs should be sought as appropriate, assuming that the distinctive mission of the institution is not compromised in the process.

A number of opportunities exist for the Banff Centre to build on present strengths in the field of continuing education. Management education could be broadened from its traditional business focus to include the increasingly important areas of public administration, urban management, hospital management and management of the arts. Programs of such a varied character would, of course, have to be closely correlated with those given by higher education institutions. Increased attention could also be given to language training, particularly immersion-type activities in French. Moreover, the institution's mountain setting is ideal for outdoor and environmental education.

The Alberta Petroleum Industry Training Centre in Edmonton should remain a separate institution because of its special role and its close financial relationship with the petroleum industry.

The federally-sponsored Alberta NewStart project is in the process of phasing-down its operation for want of funding. It will likely cease to exist without a further commitment from the federal government. In spite of some initial problems, NewStart seems to have rendered a valuable service, especially to the Metis people in northeastern Alberta. There remains an urgent need for family education, vocational preparation and community development programs in the Lac La Biche region. To maximize benefits, these programs must be conceived and conducted in close collaboration with those involved and affected. If the federal government allows the NewStart project to terminate, then the provincial government ought to operate the installation as another AVTC.

Even if federal support continues, it would be wise to bring NewStart into the mainstream of further education. With AVTCs at Fort McMurray and Lac La Biche comprising the heart of the operation, satellite training centres could function at Kikino, Janvier and Fort Chipewyan, and mobile units could be dispatched to other smaller and isolated communities.

In the interests of efficiency it would be wise to limit the vocational training programs at Lac La Biche and the satellite centres to a basic level of skills. Intermediate level programs are visualized at the larger Fort McMurray AVTC and, to a lesser extent, in some of the public colleges. Advanced level technical programs would be completed at the Northern Alberta Institute of Technology and the Southern Alberta Institute of Technology.

A complementary institution for native peoples, the proposed **Alberta Indian Education Centre** at Duffield, merits strong endorsation. Serving persons of all ages with residential facilities for families and individuals, the centre would combine educational, cultural, recreational and other social services. It is intended that full development of the centre will see the establishment of a number of regional units located at strategic points in Alberta. It would seem advantageous that these proposed regional units operate on a cooperative basis with the provincially-sponsored institutions at Fairview, Fort McMurray and Lac La Biche. In addition, the Alberta Indian Education Centre and its regional units could be tied into the ACCESS network. Advantage could then be taken of various programs at all levels of schooling as they become available. In turn the centre might use this network for the delivery of its own programs.

The Alberta Indian Education Centre would benefit from close contact with the Department of Education and the Department of Advanced Education for purposes of coordination and transfer of credits. Provincial financial involvement with this institution and its services would depend largely upon the degree to which they would be utilized by persons other than treaty Indians.

Further education programming and facilities, like many of those for early education and for the basic education of exceptional children, have developed at a pace well behind expanding demand. Consequently, community organizations and agencies have attempted to fill the vacuum. The Commission believes that the knowledge and resources these groups possess must continue to be used and supported by whatever means available. Theirs will be a vital role in ensuring the diversification of the further education sector of our future system of recurrent education.

enrollment

Estimating the numbers likely to be involved in further education in the years ahead is a difficult and hazardous task. Current information about enrollments is vague and misleading because of the many different ways in which it is compiled. Moreover, the future opportunities proposed for the further education sector, and the corresponding acceleration in demand which they are expected to generate, makes historical data suspect for planning purposes. Yet it is all that we have to go on.

Full-time institutional enrollment in further education will not be significant within this decade except at the two Alberta Vocational Training Centres. Full-time equivalent enrollment at those centres is predicted to reach 500-700 in 1975, 1,000-1,200 in 1980 and 1,500-2,000 in 1990. The Banff Centre, with a present capacity of 800 students on a year-round basis, is not expected to expand much beyond 1,000 year-round students in the foreseeable future.

Tentative projections of the number of learners by types of further education institutions are given in Table 5. Although accurate comparative data is difficult to determine, enrollment in 1970 appears to have been: schools, 32,000; colleges and institutes, 33,000; universities, 18,000–for a total of 83,000.

Table 5
Estimated Part-Time Enrollments in Further Education by Type of Institutions for Selected Years[1]

Institution	1975	1980	1990
Schools[2]	43,100	51,800	64,100
Colleges and Institutes			
Part-time credit[3]	2,100	2,800	3,300
Apprenticeship[4]	10,000	13,200	16,000
Extension[5]	50,000	66,000	80,000
University			
Part-time credit[6]	17,500	25,000	30,000
Extension[7]	23,400	33,400	40,000
Total	146,100	192,200	233,400

[1] These estimates are based on enrollment ratios derived from 1969-71 data and do not include enrollments at the Alberta Academy, Banff Centre, AVTCs at Fort McMurray and Lac La Biche.

[2] Assuming 1 extension student to 10 full-time students in 1975 and 1 extension student to 8 full-time students by 1980.

[3] Assuming 1 part-time credit student to 12 full-time students.

[4] Assuming 1 apprenticeship student to 2.5 full-time students.

[5] Assuming 2 extension students to 1 full-time student.

[6] Assuming 1 part-time credit student to 2 full-time students.

[7] Assuming 1 extension student to 1.5 full-time students.

school year reorganization

If frequency of mention is any criterion, Albertans attach great importance to reorganization of the school or academic year. In the various public involvement activities of the Commission it was mentioned over and over again. Receptiveness for change is apparent.

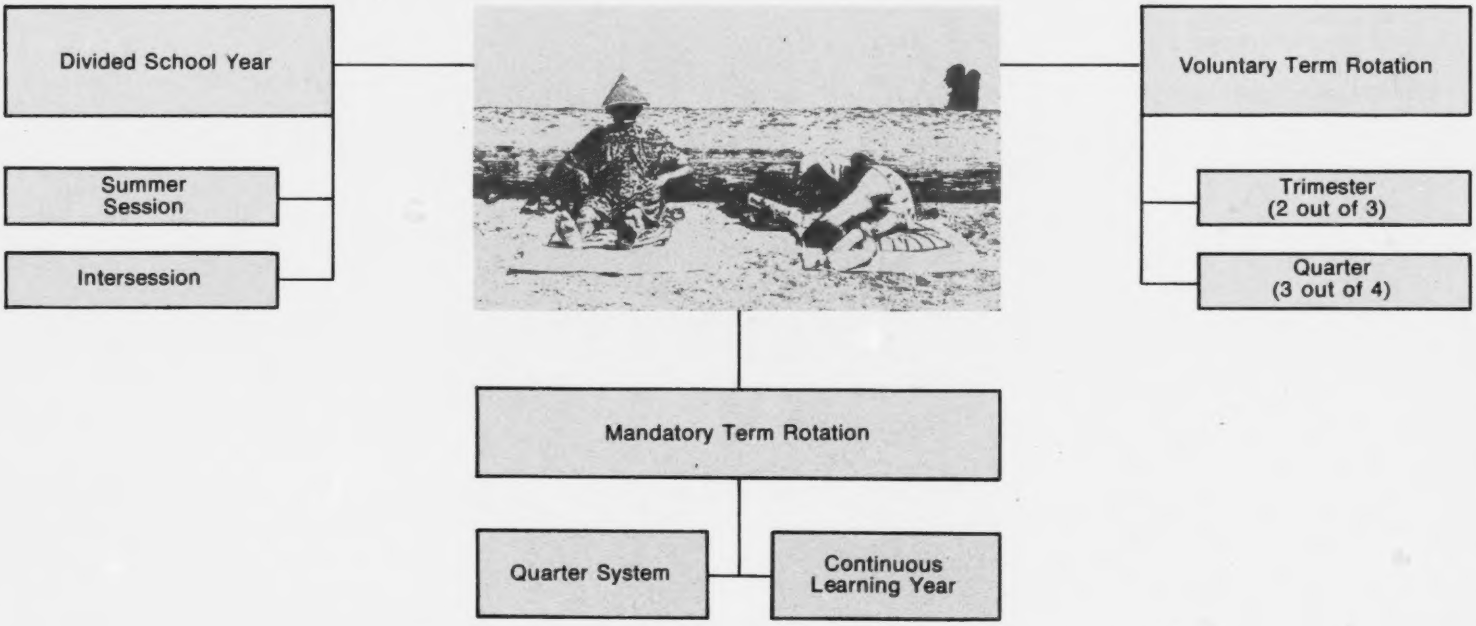
Instead of looking back to see what others have done in the past we must look ahead. Our schools are different and so are the learners. More modifications are to come. If we want to, we can now achieve changes that were impossible yesterday. Flexible programs necessary for the success of new patterns of organization based upon the use of different and longer time-lines for schooling are within our grasp. At the same time, the scheduling barrier has been broken. The computer lies waiting.

In considering future reorganization of the school year in each phase of recurrent education at least three factors must be borne in mind: the quality of program to be maintained; the amount of freedom to be accorded individual learners; and the degree of autonomy to be exercised by local and institutional authorities.

approaches

Difficulty is encountered in talking about a reorganized school year because of the confusion of terms and the variety of plans. A selection and categorization of some of the smorgasbord collection of proposals is offered in Figure 7. Those identified are deemed to be the ones most applicable to the Alberta scene.

Figure 7
Approaches to School Year Organization


Divided School Year
Summer Session
Intersession
Voluntary Term Rotation
Trimester (2 out of 3)
Quarter (3 out of 4)
Mandatory Term Rotation
Quarter System
Continuous Learning Year

Introduction of a divided school year, using Christmas as the break, requires only the shifting of the holiday period from July-August to June-July. It provides for two entry and exit points, and allows for either a lengthened Christmas vacation or break periods halfway through the fall and spring terms. The transfer from basic to higher education is easily accommodated. Since the divided year involves no fundamental change in the use of personnel and plant it does not release space or dollars. A recent evaluation of this kind of organization–involving teachers, students and parents of Lethbridge's public and separate school systems–showed that there was widespread support for it. All groups polled favored either continuing the divided school year without changes or continuing it with some minor modifications. Hardly anyone suggested that it be abandoned.

Summer school programs are frequently found accompanying the divided year organization. These can be used to provide for remedial work, enrichment, make-up activities or acceleration. Summer sessions, and in higher education even intersessions, are popular because they do not antagonize people. They tend to be voluntary and usually do not disrupt the life-style of the professional staff. Plant utilization is visibly increased. However, higher personnel costs are involved, although these are sometimes marginal and hidden.

Voluntary term rotation schemes, like the trimester or quarter systems, typically allow students to elect two out of three or three out of four terms. The basic salary year for personnel is parallel. Thus, working the third semester or the fourth quarter calls for extra pay. Under these conditions it is unreasonable to expect full use of the physical plant, let alone the release of any space. Even when special inducements are used to build up enrollments during the least favored season, generally the summer term, unit operating costs increase.

Most arguments about mandatory term rotation centre around the advantages or disadvantages of the staggered four quarter plan. This relic of the past haunts us. Its frequent revival tends to set back year reorganization by raising the spectre of a three month winter vacation for some learners.

A more sensible approach is a continuous learning year cycling plan that has many variants. Essentially all such plans are structured around a number of short term learning periods interspersed by brief vacations. Students are cycled through the year by streams with multiple points of entry and exit. Two variations actually in use are illustrated in Figures 8 and 9.

One variation is a five stream or calendar plan. Learners work through a series of eight to nine week institutional learning periods, followed by a two to three week vacation or life experience. Individual student learning calendars, and work calendars for staff, can be built around any desired number of days. The length of the day can be varied to allow for shortened days when lack of air conditioning may be a problem.

The other is a four stream or calendar plan organized on the basis of four equal terms. Time periods for vacations and life experience again occur between each term, but are somewhat longer. The number of days in student and staff calendars can also be varied in relation to local wishes.

Alberta educators and elected officials tend to shy away from requiring student participation in a year-round operation. They claim that job opportunities peak in the summer, that winter vacations are unacceptable, and that it would be very difficult to synchronize vacation times for children from the same family at different stages of schooling. They seldom think of the changes that are occurring in our economy and leisure-time activities, or of the benefits that might accrue from planned participation. It is time for them to do so.

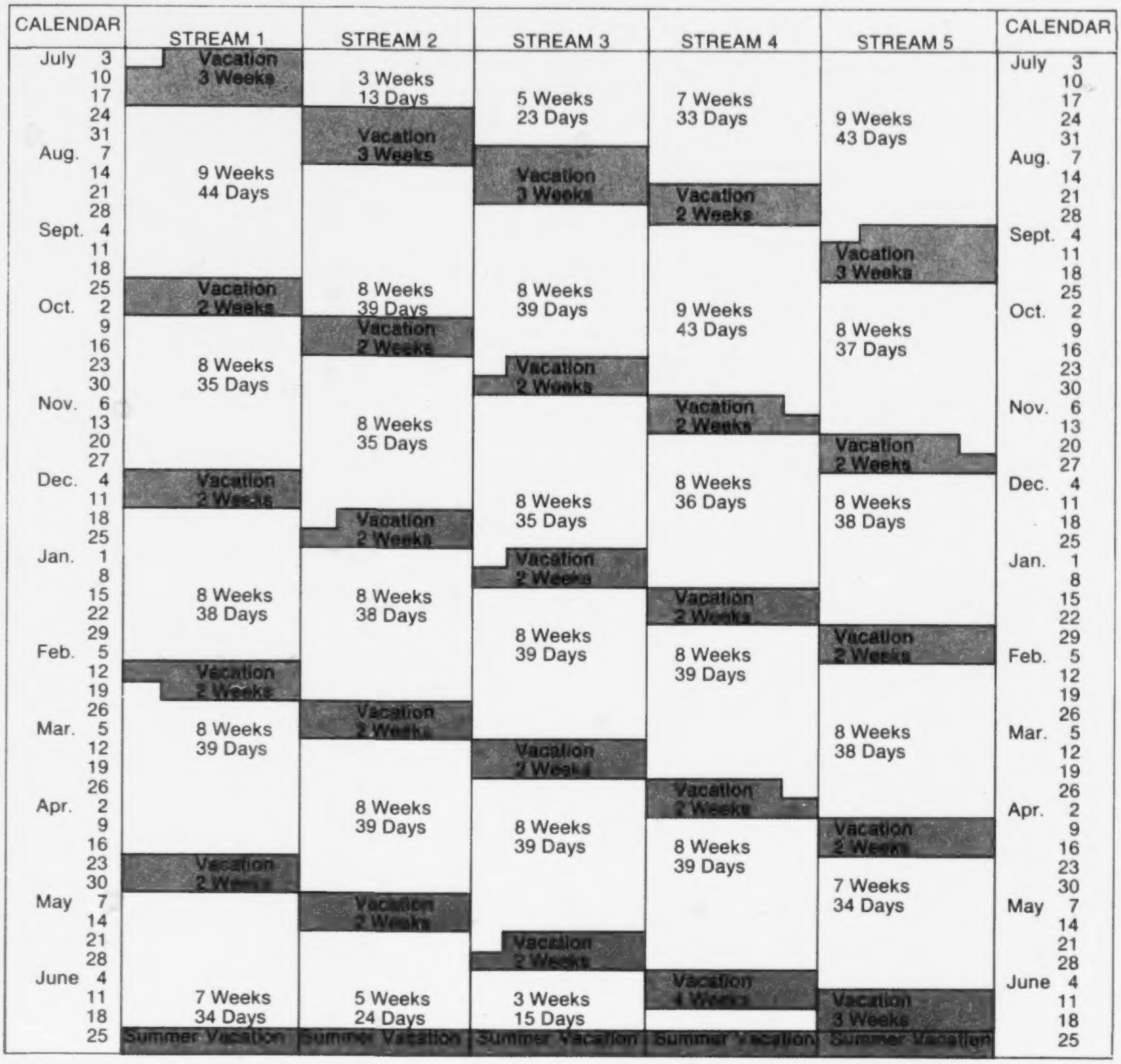
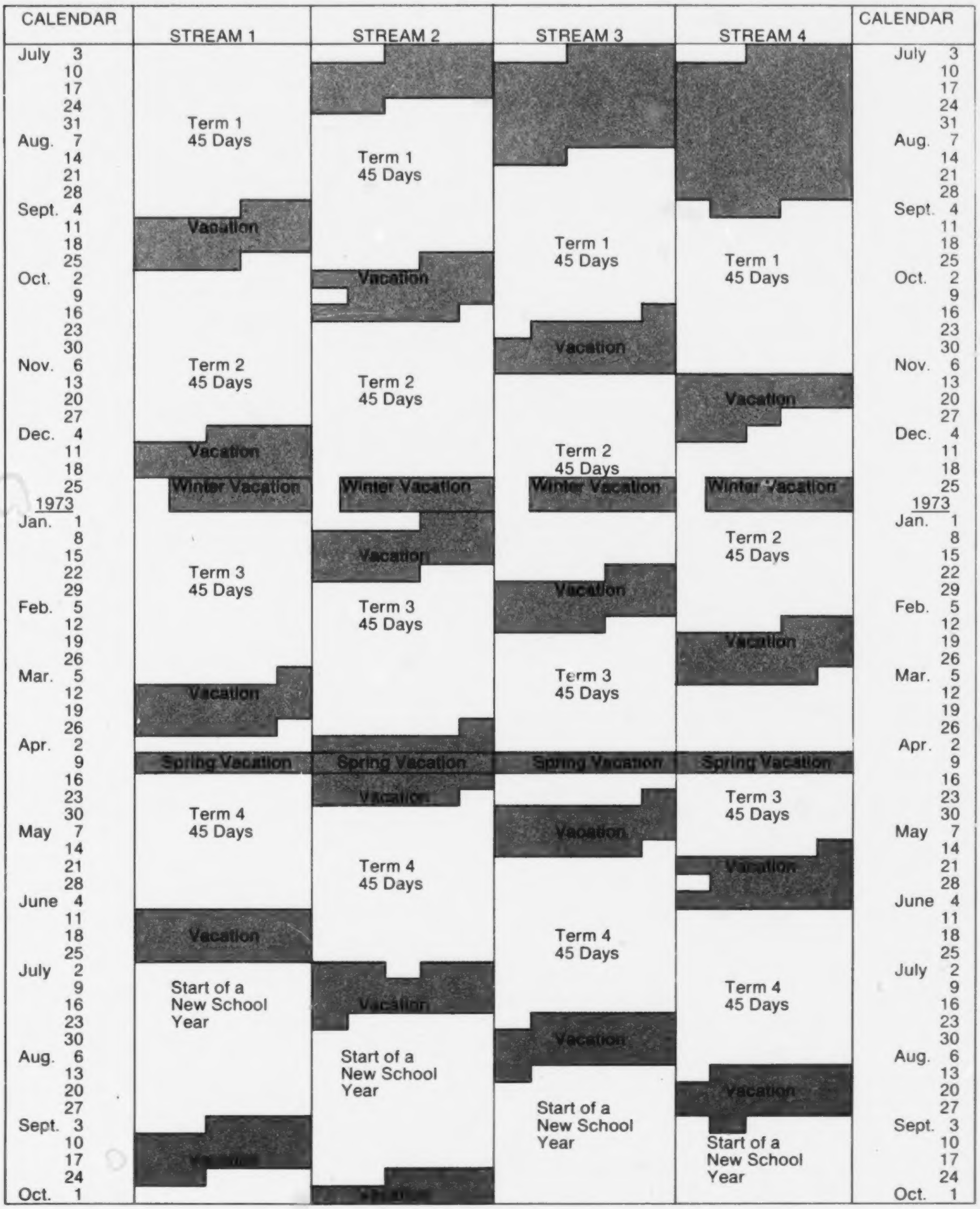


Figure 8
Five Stream
Continuous Learning Year

Figure 9
Four Stream
Continuous Learning Year


CALENDAR
STREAM 1
STREAM 2
STREAM 3
STREAM 4
CALENDAR
July 3
10
17
24
31
Aug. 7
14
21
28
Sept. 4
11
18
25
Oct. 2
9
16
23
30
Nov. 6
13
20
27
Dec. 4
11
18
25
1973
Jan. 1
8
15
22
29
Feb. 5
12
19
26
Mar. 5
12
19
26
Apr. 2
9
16
23
30
May 7
14
21
28
June 4
11
18
25
July 2
9
16
23
30
Aug. 6
13
20
27
Sept. 3
10
17
24
Oct. 1
Term 1 45 Days
Vacation
Term 2 45 Days
Vacation
Winter Vacation
Term 3 45 Days
Vacation
Spring Vacation
Term 4 45 Days
Vacation
Start of a New School Year
Vacation
Term 1 45 Days
Vacation
Term 2 45 Days
Winter Vacation
Vacation
Term 3 45 Days
Spring Vacation
Vacation
Term 4 45 Days
Vacation
Start of a New School Year
Vacation
Term 1 45 Days
Vacation
Term 2 45 Days
Winter Vacation
Vacation
Term 3 45 Days
Spring Vacation
Vacation
Term 4 45 Days
Vacation
Start of a New School Year
Term 1 45 Days
Vacation
Winter Vacation
Term 2 45 Days
Vacation
Spring Vacation
Term 3 45 Days
Vacation
Term 4 45 Days
Vacation
Start of a New School Year

benefits

Reorganization of the school year, particularly on continuous learning year cycle plans, opens up opportunities to implement many of the ideas about the process of schooling advocated in the next section of this report. The result should be higher levels of learner satisfaction and attainment. Year-round operation gives disadvantaged and handicapped learners the catch-up opportunities they need. Learners in a hurry can be readily accommodated. The integration of institutional activities and life experiences will be facilitated. Long, boring and wasteful tooling-down processes that occur in most institutions weeks in advance of conventional term ends can be eliminated. Students will be kept from regressing to frustration levels by the interspacing of study, work, leisure and pleasure. And the "forgetting" that is a by-product of extended interruptions in the learning process is less apt to occur.

Dollar savings may also be realized when participation is required. The need for new facilities or the replacement of old buildings declines. Capital outlay decreases. Savings in debt service costs will then occur. The rate of growth in expenditures for personnel can be slowed if teachers work longer calendars than students. Savings in fringe benefits for employees may arise if shorter terms lead to increased use of part-time or temporary workers.

Assessing the probable benefits of a specific type of year reorganization is not a simple matter. Existing accounting arrangements often defy valid cost comparisons. Vested interests will set up straw men to be knocked down. Embarrassing or unanswerable questions will be posed with motives remaining hidden. All of these and many other problems must be faced and overcome.

Parents may be expected to evidence a genuine concern to keep members of a family together. This can be done by geographic and alphabetical assignments. Parental preferences can usually be honored by scheduling small school singletons first, and having younger children follow older brother and sister schedules.

The job issue is another serious one. Our climate tends to favor summer employment, but employment patterns are changing. Fewer students are being employed in construction and more in the service industries. Demands in the latter are more consistent throughout the year. Some merchandising or retail services are in greater demand during the winter months, particularly around Christmas. Winter employment opportunities in recreation and tourism are also increasing. Frequently, a local job survey will show that employers can assign several students to the same job assignment over the course of the entire year. Life experience programs advocated as an integral part of basic and higher education on page 177 can be developed on a similar basis. And, of course, a modified summer day keeps the door open for summer work.

Flexible staff employment practices will resolve the issue of time for continuing education or completion of basic training. Student participation in athletics, musical, laboratory or research activities can be arranged as it now is. Summer heat is rarely excessive. Past generations of summer school students have survived without air conditioning. The substantial program revision involved ought to be viewed as an opportunity rather than an obstacle. It is a chance for educators to achieve what they are always talking about—personalized, meaningful and continuous learning.

action

The provincial government ought immediately to establish a general time-frame for schooling in Alberta to facilitate continuity in student learning and wise use of public resources. Without such provincial leadership, today's controversies and dislocations are apt to become the basis of tomorrow's confrontations and expedient compromises. This means that it will be necessary for the provincial government to place some minor restrictions upon the freedom that local jurisdictions now have to establish school years of their choice. The government could exercise such leadership simply by legislating an entry point for all levels of recurrent education following a Christmas break. Within this constraint a divided school year, with or without intersessions and summer sessions, or voluntary trimester or quarter systems, or mandatory continuous learning year cycling plans, could be adopted by governing boards. Corresponding adjustments in provincial funding arrangements would naturally have to follow.

The length of school year and school day suitable for learning in the decades to come is best determined at the local level where important situational factors can be taken into account. Nonetheless, specification by the provincial authority of a basic length or minimum range for each is required to safeguard the public interest, and to provide a base-line for funding. It is important to remember, however, that these minimum time specifications will be eroded by technology. Today, a student's learning schedule is matched to available teacher resources. Tomorrow, his timetable could well move beyond the limitations of available manpower and human energy as an altogether new kind of energy is injected into the process of schooling. It is the energy of computer-based technology–a tireless power waiting to be tapped at any time of the day or night. It is an energy source that is oblivious to viruses, the night before or unruly learners. And it is an energy source that promises a schedule for schooling in which the teacher is more available much of the time and learning resources available all of the time.

Further impetus can be given to the development of continuous learning year cycling plans by assuring school boards and boards of governors that they have the power to require student attendance. Incentive or planning grants from the Research and Development Board (to be described later) would also help persuade people to move in this direction.

If the promise of school year reorganization is not realized by these measures, then the provincial government may choose to legislate a province-wide system in the interests of quality and efficiency.

governance

Greater separation of the governing and the coordinating functions will be necessary in order that local units of government and individual institutions can develop the vital capacity for self-renewal. The development of this capacity requires freedom of action to respond quickly, in terms appropriate to the situation, to changing individual and societal needs. To ensure this freedom of action and suitability of response, the activities to be performed at the provincial level must be limited to those that cannot be effectively performed at the local or institutional level.

This limitation on provincial responsibility ought also to reflect the views of Albertans concerning a person-centred society. If the humanist values referred to in Figure 2 prevail, then a large measure of self-determination will be possible among governing boards and institutions for schooling, for the individuals within them, and for those served by them. The philosophy underlying these values is that man is free to expand his mental, physical and spiritual powers, and is capable of reaching a higher level of perfection through experience and education. And in order to achieve those purposes that he cannot attain alone, man is predisposed to act in concert with others within a framework of mutually acceptable laws and practices.

Accordingly, our future governing structures must be based on the premise that decisions about schooling should not be made on the basis of power, but rather on the basis of who should appropriately decide. The appropriateness of responsibility for decision-making can be assessed by means of three criteria: the persons or groups making decisions should possess the relevant knowledge; they should be the persons who will be held accountable for the decisions; and there should be participation by those who will be affected by the decisions. The importance and use of these criteria will vary according to the magnitude of the decision to be made and the probable seriousness of the consequences.

It would be incorrect and naive to infer from the foregoing that everyone should be consulted about everything. Rather, it suggests widespread citizen and learner involvement in goal-setting and broad policy development, with their execution being left to those with the knowledge, skill and time–the professional.

An essential condition of such trust in the professional–whether he or she is a teacher, administrator or some other specialist–is professional accountability. The first requirement of such accountability is disclosure; there must always be full public access to the records of the decision-making processes, except in particular instances where confidentiality is of paramount importance. A second requirement is the right of petition by those affected by decisions; this is a legitimate, easy and reliable way in which critical opinion can be generated and communicated. The third essential element is some regular process whereby reappraisal of both the competence of the professional, and community confidence in him or her can be undertaken.

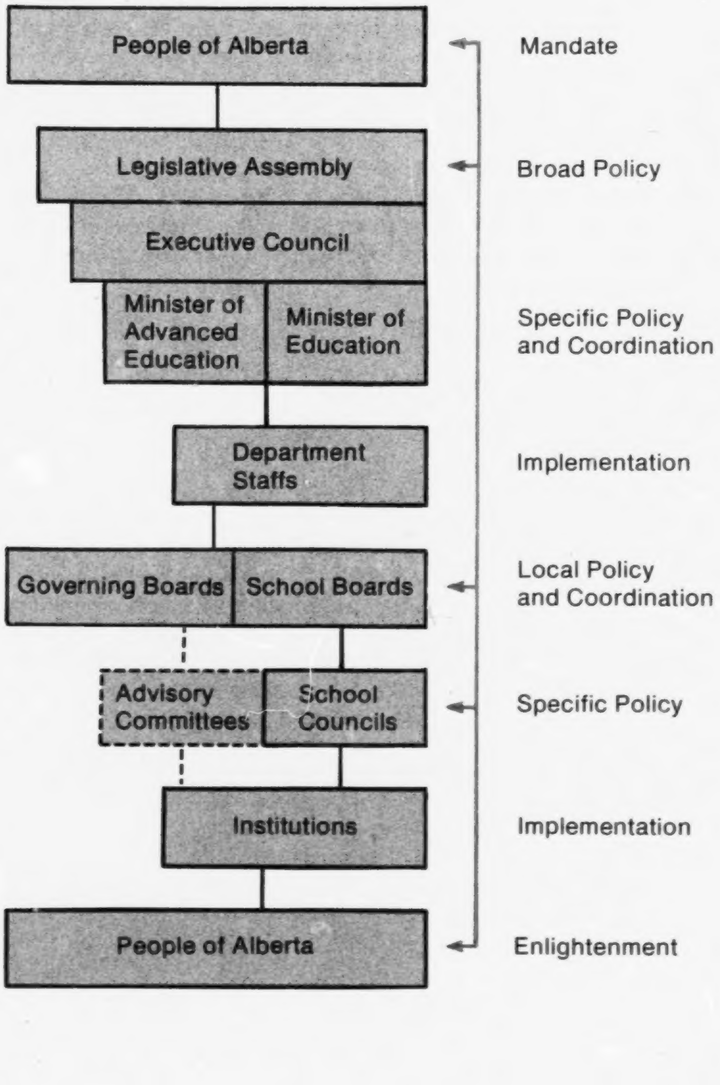
An attempt to depict the essence of these ideas is to be found in Figure 10. Further attempts to give expression to them are contained in the proposals for governance which follow.

early education

At the regional or local level, decisions regarding finance, priorities and other broad policy matters should be taken by the school board, community organization or other agency offering the early education program.

Decisions pertaining to the internal operation of early education activities, or programs housed in schools, could then be the delegated responsibility of a council representative of those more directly involved. The senior professional employee overseeing the day-to-day conduct of the endeavor would be a key member of the council. Although the size and composition of these early education councils ought to be a matter for local determination, it is suggested that the majority of members be from the parent group. Responsibilities of the council might include: setting operational priorities; establishing policies related to such matters as scheduling, staffing and program emphases; and representing community interests and needs to the regional or local agency sponsoring the program. In smaller communities, and in the case of programs sponsored by community organizations, all of the aforementioned responsibilities could be easily undertaken by one group.

Figure 10
Participation of the People of Alberta in Governance


People of Alberta
Mandate
Legislative Assembly
Broad Policy
Executive Council
Minister of Advanced Education
Minister of Education
Specific Policy and Coordination
Department Staffs
Implementation
Governing Boards
School Boards
Local Policy and Coordination
Advisory Committees
School Councils
Specific Policy
Institutions
Implementation
People of Alberta
Enlightenment

basic education

The School Act was recently revised in response to changes in society. Its major intent is the provision of more autonomy to local boards of trustees. Only the minimum control necessary to safeguard the general public interest has been reserved for the provincial level. This move to decentralize authority and place greater responsibility in the hands of locally-elected boards parallels the premises underlying this report.

Alberta's boards of trustees must help to insure that decentralization of authority also occurs within their jurisdictions. In a general sense, shared governance of school systems means that boards must be willing to involve people meaningfully in appropriate ways, and that effective and honest communication with the community will be one of the first rules of procedure. Boards of trustees will continue to be responsible for: setting goals; developing policies and priorities; determining roles and functions; appraising the effectiveness of policies and programs; coordinating services; working with other agencies to promote improvements in schooling; and utilizing the learning resources of the broader community. A board's responsibilities should also include the establishment of general guidelines for conditions of employment for system personnel, and the implementation of planned differentiation of schools. Trustees can best influence overall jurisdictional standards by setting only the bare skeleton of policy. This allows local communities greater freedom to add vital substance to the policy within which their schools are to function.

The central figure in the implementation of board policies is the superintendent of schools. As an implementer and influencer of policy, though not the designer, he or she will be held increasingly accountable for the day-to-day performance of the school system. Hence, the immediate future will probably see a high rate of turn-over of personnel associated with this position. However, if humanist values are accepted they should serve to modify organizational relations and strategies. The superintendent would then be able to more easily reconcile his or her dual role as chief executive officer and leader of the professional staff and enjoy greater job security.

Teachers should be eligible for election to the board of trustees of the school system in which they are employed. While the justification for their exclusion from eligibility has been on the basis of conflict of interest, it is now apparent that the problems envisaged are more illusory than real. Removing this restriction would restore to teachers the democratic rights accorded to all other citizens. Also, if teachers were to be elected to school boards it might help narrow the gap that now exists between teachers and trustees. A further consideration is that the teachers' counterparts in higher education do not have to be elected–in fact, they are assured of membership on governing bodies by statute. Finally and obviously, making teachers eligible for membership on school boards does not automatically ensure their election. They would still have to pass the test of the ballot box.

Even though 18 year-old students are now legally entitled to be elected to school boards, continuing direct contact between students and trustees must be assured. This need could be met through regular meetings between student representatives and committees of trustees. The success of a recent experiment by the Calgary Public School District in this regard is an excellent example of such action.

Where concentrations of native students in rural school divisions and counties are large, there is a need for special provision for their representation on governing boards. These representatives should have the same qualifications for election as any other trustee. Removal of the residence requirements for Indians is necessary, however, because Indian reserves are excluded from school divisions and counties. Such representatives ought to be elected by the native people involved on a basis negotiated with the governing board. But provisions for native trusteeship should not be forced upon the Indian reserves or Metis communities. Action should be taken at the time when the native people opt for it.

Recognition of native communities is really only an extension of existing arrangements that can give special status to towns and villages within counties and divisions. In the case of the Metis, this special provision has particular application in certain areas of northern Alberta. For example, in the Lac La Biche School Division a native trustee might be elected from the Metis colony at Kikino, or to represent all colonies, if one or the other were designated as a sub-division.

In an effort to bring the elected trustees closer to their constituents, to avoid rather chaotic election campaigns, and sometimes incomprehensible ballot and voting arrangements, the School Act ought to be amended to permit the election of trustees by wards in urban school districts–if any jurisdiction favors that method.

Concern is often expressed about the inability of municipal authorities to control or negotiate the size of supplementary requisitions that school boards present to them each year. It is argued that under present arrangements municipal authorities are unable to establish their own priorities for various local services. Further, it is alleged that municipal authorities shoulder most of the blame for rising property taxes even though a substantial portion of the increase pertains to education and is beyond their control. That a problem exists is not debatable, but finding an acceptable solution is quite another matter.

One way to cope with this problem is to ensure joint meetings between school and municipal authorities in each jurisdiction. The resulting exchange of views would promote mutual understanding of problems. But more important, this face-to-face opportunity might give rise to some ingenious alternatives.

Another solution to school-municipal tax conflicts that is often proposed is the county system of government for the cities. While there would be a number of advantages to bringing the administration of education and all municipal services under one elected body, there is one major obstacle that appears to render the idea unworkable in the foreseeable future. Two classes of voters would be created in each city. Separate school supporters would have first class status because of their ability to vote for, and be elected to, both the separate school board and the county council, which in turn is responsible for public school governance. Unless there was a religious restriction placed upon persons standing for election to the county council, the possibility exists that too few public school electors would be placed on the council to form a school committee. Until these obstacles are removed by constitutional and legislative changes the county form of government for cities must be rejected.

An alternative that could move our cities closer to all-purpose urban units of government is the establishment of a joint public-separate school board. This form of integrated governance presently exists in Halifax. In this city, a single board of trustees, composed of predetermined numbers of public and separate school representatives governs both school systems through one administrative organization. Individual schools, however, continue to maintain their distinctive characters. Within Alberta, this arrangement would be particularly appropriate for smaller urban centres where separate schools have difficulty providing a full range of educational services. Moreover, the establishment of a few joint boards would enable Albertans to assess the oft-heard charge that administrative overhead in our dual structure is partially responsible for the rising costs of schooling.

Many of the regional learning centres proposed earlier would serve a large area encompassing several existing school jurisdictions. The most suitable governing body for such centres would be a regional board composed of representatives from all jurisdictions in the service area. The existing legislation with respect to the establishment and operation of regional school districts can be readily adapted to facilitate this.

school councils

The majority of Alberta schools function in relative isolation from the communities which they serve. Indeed in some places, serious rifts appear from time to time triggered-off by disputes over student achievement, discipline or salary demands. In other schools, meet-the-teacher-nights, sporadic newsletters and report cards provide for token parental involvement. In still other institutions, adult and community groups are seldom to be found.

Any barrier or gulf between school and community is detrimental to learning. Such separation flies in the face of empirical evidence supporting the belief that parental involvement in the school improves childrens' academic motivation. Active community support and participation is also a strong force for change. Educators who stifle this force lose a potent ally in the fight against obsolescence in schooling. Effective home and school associations, enlightened teachers and courageous principals can help bridge the gulf. But a more enduring link would be a better guarantee of future accord. The school council could provide such a guarantee.

In order for school councils to develop, existing legislation will have to be extended so that boards of trustees can establish a school council for each school or group of schools within its jurisdiction. The present School Act, although not giving specific authority for this type of community involvement, does provide the following general authorization: "A Board may delegate any of its powers to the Superintendent of Schools or a committee appointed by it."

Formed at the request of a group of electors and/or students, each council would be composed of representatives of those involved or affected. Although it is not envisioned that students would sit on councils during the earlier stages of schooling, provisions for continuing consultation with student representatives in intermediate schools is a necessity. The council should be a mature partnership among people which reflects not only responsiveness and influence, but essentially builds on respect, trust, the right of initiative, and a flexible formula for participation in policy decisions.

These school councils will differ substantially in composition and function from the local advisory boards that existed for a few years in rural Alberta. The essential difference in composition would be the involvement of students and staff on school councils. In function the councils would have important responsibilities, particularly with regard to the process of education.

While it is not the role of the Commission on Educational Planning to be prescriptive with respect to details of implementation, it seems appropriate to suggest possible guidelines for the formation and operation of these councils. A senior school council might consist of parents and other laymen, students and school-employed personnel. In addition, the principal might act as the executive secretary of the council to ensure that its wishes are carried out. The chairman should probably be drawn from the parent or lay representatives. Student members could be elected by the student body, and employee representatives chosen by the school's staff. The representatives of parents and the community ought to be elected, perhaps at a well-publicized general meeting. Eligibility to vote and to hold office might be dependent upon having a child in attendance at the school, or having some other vested interest in the school-community.

Where a school council is established, the home and school association could become a major vehicle for the identification and expression of parental concerns. The association might also be used to mobilize the energies and talents of community volunteers to help staff the school. Similarly, the students' council would retain its independence and continue to further the particular interests of students while working in close collaboration with the council. The staff of the school, including professional teachers, learning assistants, volunteers and others, would also be urged to place their views and concerns before the council.

School councils must be granted authority and responsibility for specific aspects of school operation in order to ensure their meaningful existence. The responsibilities assumed by councils might include: determining school budget priorities; planning and organizing further education activities; developing most school regulations, including those dealing with attendance, discipline, and dress; formulating program policies within the broad framework established at the provincial and school system levels; auditing the extent to which agreed-upon objectives are being achieved; and communicating community-school needs and concerns to school boards. The details of conditions of service for school personnel within the general guidelines set by the school boards–excluding salaries–might also be determined by the councils. In addition, councils ought to have powers of delegation that would facilitate the use of committees for specific tasks, such as the supervision of recreational endeavors and facilities use.

The school principal will, of course, be accountable for the implementation of policies established by both the board and the school council. Insofar as council operation is concerned, the principal would be expected to provide information and seek policy guidance from the council on matters within its purview. At the same time, he or she must be committed to the school council concept and dedicated to making it work.

It is acknowledged that school councils, as they are envisioned, would undertake responsibility for some matters now dealt with by school boards. Far more of the activities proposed for the councils, however, are now handled by central office administrators, principals and teachers who rarely consult with those affected. It is possible for school boards to delegate specific responsibilities to school councils in such a way as to avoid conflict between the two bodies. Thus, the type of responsibilities undertaken by school councils will actually free school boards from a number of specific policy concerns. This new found freedom will allow boards to concentrate on their proper function; the formation of broad policies applicable to all schools within their jurisdictions.

Although there may be fears that too few persons will be interested in participating in school governance, and that it will be a time-consuming activity, school councils present both a challenge and an opportunity to those Albertans who are concerned about their inability to become more involved in school affairs. Moreover, the councils can interject a strong conciliatory force into the pernicious struggle for control of the schools now apparent in some Alberta communities.

higher education

Our institutions of higher education are very intricate organizations. Students, staff, administrators, governors, alumni, public officials and an increasing number of citizens are all interested in them and assert a demand for involvement. It is easy to under-estimate the future influence of any of these groups. Yet good and efficient governance in our colleges, institutes and universities will depend upon a reasonable and clearly understood allocation of responsibilities to make the structure of authority credible for each of these groups.

At present each type of higher education institution is governed differently. There are also differences within types. The institutes are tied directly to our provincial government, while the universities and colleges enjoy a more independent status. Meanwhile, the three former agricultural and vocational colleges are just emerging from the paternalism of the Department of Agriculture. Neither of the two institutes have formal governing structures that allow for extensive student involvement. They do, however, provide for widespread interaction with the broader community. Likewise, some of the colleges are governed more like high schools with only token student participation. Boards of governors in colleges tend, however, to be more influential than those in universities. In fact, the faculty-dominated and excessively hierarchal structure of the universities has almost emasculated their boards of governors, and is relatively insensitive to community and individual needs.

Overcoming the deficiencies implicit in the current state of affairs requires more attention to the principle of participation. Application of this principle by every institution will, undoubtedly, make their modes of governance similar, but not identical. Each must retain procedural autonomy to pursue its distinctive mission and special functions. The ultimate test of quality and effectiveness in governance is the extent to which it enhances the integrity and beauty of the private lives of those it touches. There is no simple or magical way of applying this test. It is more a state of mind than a specific activity–a feeling arising from experience–an ideal to propel the missionary and to sustain us all.

A system of college, institute or university governance should itself be educative for all those who take part in it. This means that the system must be conceived as part of the broader restructuring of the ways in which people will deal with people, forecast in Section I of this report. It also means that the style of each institution's arrangements must reflect the ancient academic ideal of reasoned scholarship in which information and proposals are subject to critical review. Hopefully the outcome will restore public confidence, reduce internal turbulence, and revitalize learning.

boards of governors

Legal authority for each college, institute and university should reside in a predominantly lay governing board. The idea that higher education is too important to be left to educators and students alone, and that it requires surveillance by the larger society, is strongly supported by many Albertans.

The prime function of the board of governors ought to be planning the long-range future of the institution by establishing goals and priorities. Staff alone often have difficulty in transcending themselves in this matter. More specifically, the board should approve budget and planning documents; major changes in program, organization or activities; various institutional regulations; and agreements with respect to personnel, construction, maintenance, goods, services and equipment. In addition, this body must strive to link the institution with other institutions, the community, government and other public agencies in such a way that it will advance the interests of students and faculty.

Membership on each board of governors should provide for representatives of the public-at-large, the staff and students, and the president of the institution. Participation of all groups affected by the board's decisions is thereby enhanced. Lay members need not be appointed by government on a Noah's Ark principle. However, it is desirable that members be drawn from all ranges of the socio-economic spectrum in order that they may reflect the changing composition in the clientele of higher education. Students and various categories of staff could be nominated and appointed on a basis similar to that now outlined in the Colleges Act and the Universities Act.

To give voice to the enlightened sovereignty of the people, lay persons must continue to constitute the majority of the membership. Together public and institutional board members create the checks and balances central to the democratic process. Without this visible avenue of accountability to the general public, higher education governance can become a solicitation-of-deception. For example, many institutions attempt to estimate the way in which faculty spend their time. These estimates consistently and predictably exaggerate the total work time of faculty and the share of that time devoted to teaching. Similarly, some institutions over-estimate future enrollments in programs that require large amounts of space and under-estimate those in programs requiring relatively smaller amounts of space. And, for almost all programs, the space requirements reflect past practice and appetite, rather than emerging trends and need.

Boards of governors can also be effective buffers against selfish or rascally pressures from special interest groups within and without colleges, institutes and universities. They must, however, guard against becoming channels for these pressures and thereby diverting or subverting institutional endeavors. Instead the boards must seek to promote intellectual freedom for both staff and students, as well as procedural autonomy for the institution.

institutional councils and committees

In this province, as elsewhere in North America, we appear to be nearing the end of a period of preeminent staff power. During the time when there was a short supply of staff and a large supply of students, staff members consolidated their influence. This consolidation process probably reached its zenith in Alberta with the 1966 revision of the Universities Act which granted general faculties councils responsibility for academic affairs. And as a result of an expansive definition of academic, general faculties council responsibilities soon included everything that really mattered–even parking.

It is not hard to predict that the governance of higher education will become less staff-dominated over the next decade or two. The demand for student power has already taken its toll. Further erosion is a likely outcome of the new era of declining market growth for staff. But most of all, staff supremacy will be undercut by the prevalent view that the time has come in higher education–just as it has come in environmental exploitation–when the pace of expansion must be slowed down, its direction reassessed, and wiser use made of our resources.

These changing circumstances, combined with a strong board of governors, have significant implications for the role and composition of various institutional councils and committees. Their duties and responsibilities will require substantial redefinition in terms of the board's residual responsibility and authority for the total institutional effort and the criteria for decision-making proposed earlier in this portion of the report. Greater heterogeneity ought to become the guide for composition with variability in the proportion of students, staff and administrators, depending upon the task to be performed.

Further factors that call for revision in internal patterns of governance will also become apparent in the subsequent sections of this report dealing with process, planning and resources.

advisory committees

The creation of program advisory committees would be a major step toward the cementing of relationships between colleges and universities and the larger community, particularly business and industry. An advisory committee for each career or job-family program could be manned by acknowedged leaders and recent graduates. Once formed, this body would offer advice regarding program practicums and placement. The people involved would tend to become ambassadors in their communities and occupations on behalf of higher education students. Undoubtedly, much of the immediate employment success experienced by graduates from our technical institutes has been largely to the credit of their advisory committee system. In future, why not extend similar opportunities for better life-chances to learners in all colleges and universities?

university senates

In recent years, partly as a corollary of the surge of staff power, the effective contribution of university senates has declined so as to be virtually non-existent. Because they perform little more than a public relations function, it can be argued that the senates represent neither meaningful participation in university affairs for their members, nor beneficial use of the public funds expended for their maintenance. With four universities in Alberta, two of which are located in the Edmonton region, it has become exceedingly difficult to define the service area of a given university. Hence, there is a considerable problem in appointing members to represent affiliated institutions, geographical areas, and groups and organizations with an interest in the university–without infringing upon the territory of another university. Most alarming, however, is that the potential of the senates for furthering the interests of learners and teachers, and through them our provincial society, appears slight in comparison to the aforementioned advisory committees.

For these reasons, university senates might very well be disbanded. The position of chancellor should be retained, however, with his duties remaining much the same as at present, except that he or she would no longer have to serve as chairman of the senate. Continuing to serve on the board of governors as one of its lay members, the chancellor could be appointed by the provincial government following receipt of nominations for members from the public-at-large.

The duties of senates with respect to receiving submissions from the general public could become the responsibility of the Department of Advanced Education, and, at the institutional level, of the boards of governors. Responsibility for the authorization of honorary degrees might be undertaken by the board of governors of each university, or some group designated by it.

further education

Since further education is envisioned as being largely the responsibility of existing institutions and organizations no separate governing arrangements need be sought. Adaptations of the governance patterns for other phases of recurrent education should suffice. For example, boards of trustees, and especially school councils, can be expected to concern themselves with both basic education and further education programs in community-schools. In rural areas, some aspects of this mix of opportunities might come under the purview of more broadly-based groups like the Education Council of the Three Hills School Division. Similarly, the governing structures of higher education institutions ought to be able to serve the needs of part-time credit and non-credit students, as well as those in attendance on a full-time basis.

Insofar as discrete further education facilities are concerned, other arrangements will be required. It is assumed that the Banff Centre will soon achieve independent status and evolve a method of governance–probably in the unicameral mode with numerous advisory committees–suited to the performance of its unique mission. Although the Alberta Petroleum Industry Training Centre would be administered directly by the Department of Advanced Education, there should continue to be provision for advisory committees composed of representatives from various segments of the oil industry.

With the conversion of Alberta NewStart to an AVTC it would, like the one at Fort McMurray, flourish best initially under the direct supervision of the Department of Advanced Education. In this way, the total resources of the department could be used to facilitate growth and linkage with other social and economic activities. At the same time, extensive use ought to be made of local and regional advisory committees to identify the needs of the persons to be served and to plan programs to meet them. At a later stage in the development of the AVTCs, greater independence in governance may become appropriate.

coordination

Various parts of the structure for schooling must function in harmony with one another and with society. Their interdependence is pooled, sequential and reciprocal. Unless each performs adequately and as expected the total structure may be jeopardized. Effective coordination is required, therefore, to ensure action is taken in accord with the principles of efficiency, equity, quality and unity. And the more variable and unpredictable the situation, the greater the reliance on coordination by mutual adjustment rather than by standardization of regulations–or by rigid adherence to planned schedules of action.

Coordination, then, is really nothing more than a means for promoting a structure that sustains a rational approach to choice. Since the ideal of an autonomous individual in a person-centred society implies an opportunity to make choices, a significant benefit accrues to the individual from improved coordination. There is greater assurance of the right and opportunity to choose from among alternative forms of schooling. Other major benefits to be derived from improved coordination include: less duplication of effort; wiser allocation of resources; greater capacity for quick and efficient mobilization of resources to meet changing situations; improved program continuity and transferability; and planning capabilities that transcend those of sub-systems and individual institutions.

There is no such thing as no coordination. Where proper mechanisms have not been created, or where existing ones are ineffective, informal attempts at coordination emerge. And studies indicated that the record of these informal cooperative endeavors has been less than satisfactory. Obviously, rather than separated coordination undertaken piecemeal by a variety of groups it is preferable that integrated coordination be carried out by bodies concerned with planning on a comprehensive long-range basis.

provincial level

Province-wide coordination enhances the decision-making ability of local units of government—in this case school boards, boards of governors and community organizations. It does this by facilitating the continuing delineation of roles and functions of the various sub-systems and institutions within the provincial educational enterprise. In other words, it sees that the rules of the game are spelled out so that fair play prevails. This is obviously preferable to the free-for-all that would ensue if each jurisdiction were to invent its own game of monopoly. Many learners would never "pass go." They would be losers.

Effective coordination of recurrent education in the decades ahead requires some consolidation and reorganization of provincial responsibilities. It also requires that careful attention be given to a key concern about future schooling expressed by many Albertans, particularly students and parents–the transfer of credits.

consolidation

The principles of quality and efficiency can be better served in the future by transferring various educational programs, which are presently the responsibility of other provincial government departments, to the Department of Education or the Department of Advanced Education. These specific programs should be involved in a transfer of responsibility to the Department of Education:

- Department of Health and Social Development
  - Day-care centres, play schools and nursery schools
  - Headstart (pre-school) programs
  - Registry for Handicapped Children

Jurisdiction over the following programs should be transferred to the Department of Advanced Education:

- Department of the Attorney General
  - Educational programs in penal institutions
- Department of Health and Social Development
  - Nursing education
  - Nursing aide education
  - Psychiatric nursing education
  - Mental deficiency nursing education
- Department of Labour
  - Regulation of trade schools
  - Apprenticeship and tradesmen's qualifications
- Department of Lands and Forests
  - Forestry technology
- Department of Culture, Youth and Recreation
  - Outdoor and recreation education
  - Cultural education

Continued maintenance of the Alberta Colleges Commission and the Alberta Universities Commission will only splinter and distort the efforts of the Department of Advanced Education. It is proposed, therefore, that the two commissions be dissolved and that their responsibilities and employees be taken over by the department.

Among advantages to be gained by dissolving the two commissions, and bringing the universities into closer contact with all other higher education institutions are: redirected and rational inter-institutional competition that strengthens quality of service; elimination of artificial distinctions between supposed "noble" and "less noble" institutions; closer linkage of higher education with basic and further education; improved ability to set priorities and allocate resources for the entire higher education sector; and a reinforced planning capacity that can deal effectively with problems such as the transfer of credits. Marriage of the duties and personnel of both commissions within the Department of Advanced Education also guarantees that responsibility for policy decisions vital to the welfare of all Albertans will be taken by elected representatives.

Our institutions for higher education are confronted by future challenges that cannot be met by today's solutions. The pressure of numbers and a series of socio-economic factors will soon cause a dissolution of their elitist role. This will signal a serious movement towards mass higher education in Alberta. During the intermediary and critical stage between elitist and mass higher education a comprehensive planning and coordinating mechanism will be indispensable to a smooth transformation.

Recent studies report that the vast majority of North American jurisdictions are moving toward some form of statutory coordinating body that is responsible for all types of institutions. Since this pattern enjoys the support of emerging practice, the major issue would appear to be whether that body should take the form of a commission, board or government unit.

The role played by a government unit can be positive and constructive, encouraging institutional control and flexibility. It need not be concerned with day-to-day administration of institutions or with line-by-line perusal of their budgets. Commissions or coordinating boards are seldom as effective and independent as they are intended to be. In fact, they often amount to another bureaucratic layer between government and institutions, and they open up convenient avenues for avoidance of responsibility by government. Unlike government departments, commissions and boards are not subject to the strong residual power of Albertans to guide and evaluate their efforts. For these reasons, the Commission on Educational Planning believes that the performance of coordinating and planning functions must be undertaken by a government department.

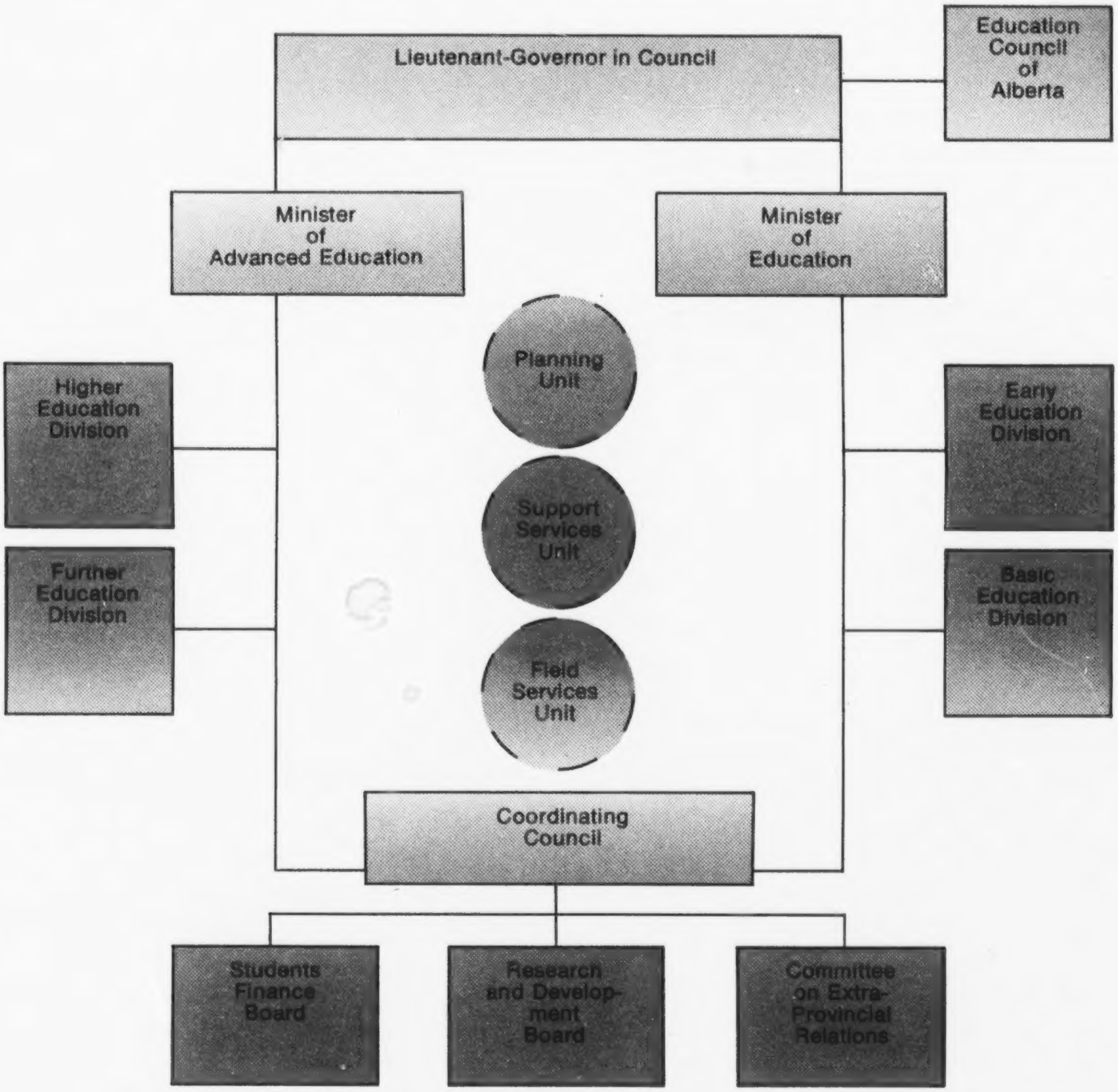
reorganization

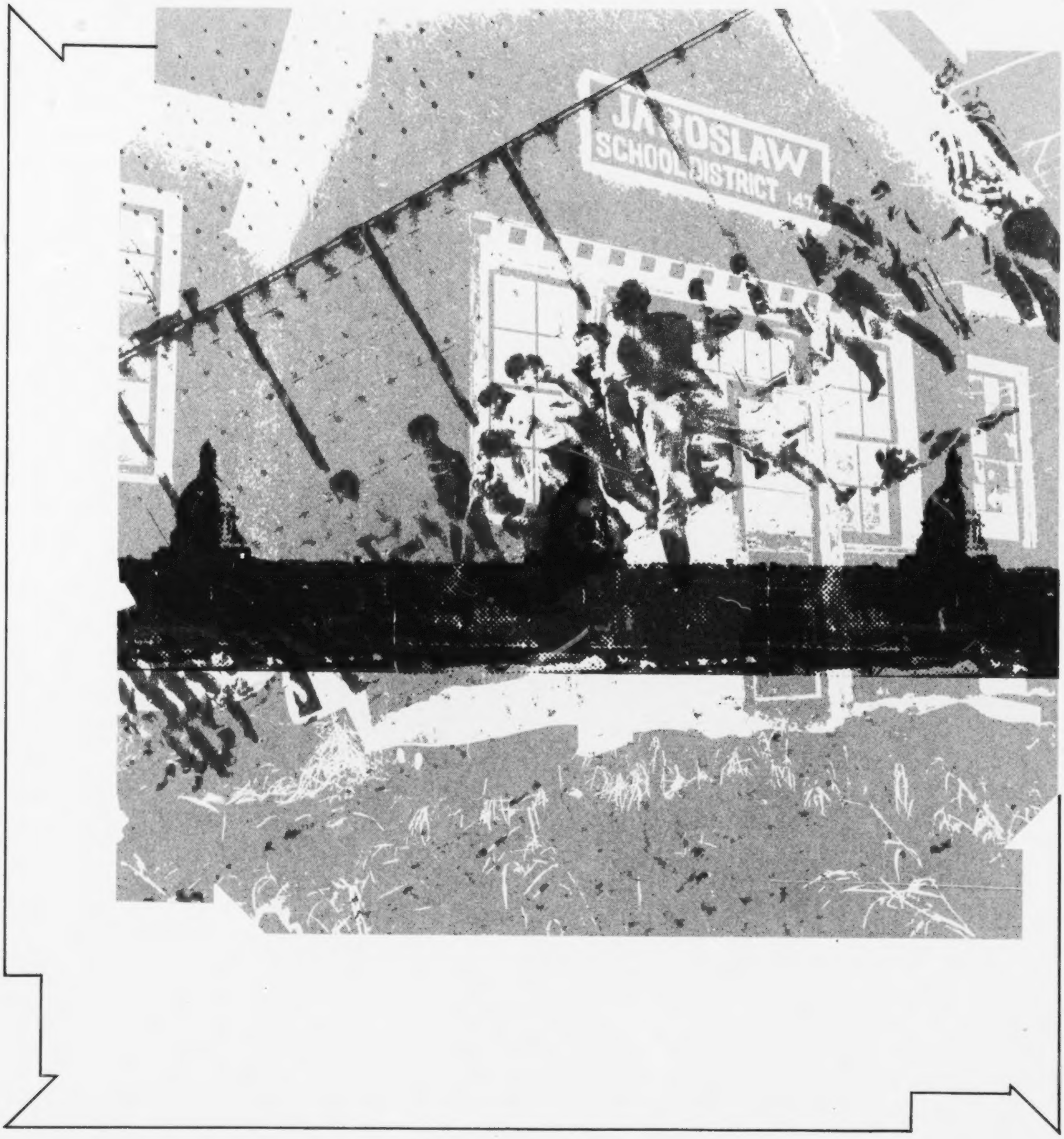
When the goals, functions and processes of schooling are somewhat different, then a case exists for the development of sub-systems and administrative structures that provide for these different needs. The four levels of early, basic, higher and further education require just such differential consideration. Thus, these four sub-systems ought to be distinguished from one another in any provincial coordinating structure. Therefore, the proposed organization that follows provides for two operating divisions within each of Alberta's education departments.

It is proposed that the two departments share certain common service units, and that their efforts be synchronized by means of a Coordinating Council. The organization, roles and related structures of both departments are outlined throughout this sub-section. The form and functions of a permanent monitoring mechanism for Alberta's educational system will also be suggested. An overview of this proposed reorganization is given in Figure 11.

The reorganization envisaged will not increase the administrative overhead in education because the two departments are expected to adopt a predominantly coordinating function and less of a governing role. Their activities will tend to focus upon broad system policy decisions, resource allocations, and long range planning. With the amalgamation of several existing agencies into the two departments, and the transfer of more control to the local level, the total staff numbers and costs ought to be reduced.

Figure 11
Proposed Reorganization of Departments of Education and Advanced Education


Lieutenant-Governor in Council
Education Council of Alberta
Minister of Advanced Education
Minister of Education
Higher Education Division
Further Education Division
Planning Unit
Support Services Unit
Field Services Unit
Early Education Division
Basic Education Division
Coordinating Council
Students Finance Board
Research and Development Board
Committee on Extra-Provincial Relations


JAROSLAW
SCHOOL DISTRICT 147

department of education

The Department of Education should be reorganized into two divisions–early education and basic education. Each division might be headed by a deputy minister. In general, both divisions would provide coordination and leadership-service for the phase of recurrent education within their purview.

Sensitivity to the changing needs of our province and its educational system cannot be developed if these divisions function in isolation from society. Consistent with the principle of participation, the department must actively seek continuing dialogue with the public-at-large and with stakeholder groups such as the Alberta School Trustees' Association, the Alberta Teachers' Association, the Alberta Federation of Home and School Associations, Unifarm, Metis Association of Alberta and students' organizations. Before major policy decisions are made, there should be close consultation with representatives of those likely to be affected.

Early Education Division

The allocation of pre-school activities to a separate division is prompted by two basic considerations. One is the special attention that must be given to early education if we are to rationalize expansion. A major and immediate task for the Division of Early Education would be to interrelate the three programs proposed by the Commission with those now offered in playschools, nursery schools, day-care centres, and programs under preventive service legislation. This unified approach should yield more accurate appraisals of need, and more effective and economic responses, than is possible with the present atomization of child services. The most serious weakness in perpetuating existing arrangements for coordination and planning is not that they will lead to contradictory policies, but to a situation in which everybody's business becomes nobody's business.

The other consideration is the potential for creativity and flexibility in both process and structure that can be nourished by keeping early education distinct in concept and in practice from the basic system of schooling. The challenge of being new and different is always a stimulus to energetic leadership and innovative activities. By creating this division–even if only as a temporary system–we will be able to nurture these attributes and reap their benefits.

Among the related responsibilities foreseen for the Division of Early Education, is the maintenance of an expanded central registry for handicapped children, with the help of public health authorities, to facilitate the taking of remedial action at the earliest possible age. Another would be the encouragement of learning opportunities for mothers of young children. Still another would be to administer the financial support for early education on a program budget basis.

Basic Education Division

The Division of Basic Education would undertake many of the responsibilities currently associated with the Department of Education. Chief among these is the planning function. Others include establishing minimum standards for instruction and providing adequate resources for their achievement; giving leadership-service in program development; awarding of diplomas; and arranging for a means of quality control. More so than in the past, this division should stimulate and coordinate the schooling of exceptional children to ensure that all persons in need of special treatment are served. Similarly, the division ought to assume greater responsibility for the availability and adequacy of learning resources by working closely with suppliers.

department of advanced education

This department (which considering the clientele served might more properly be termed the Department of Adult Education) is also seen as having two divisions–higher education and further education. Again, each might be headed by a deputy minister, and each would provide coordination and leadership-service for a particular aspect of recurrent education.

The Department of Advanced Education must also strive for continuing dialogue with the general public and with major stakeholder groups, as a basis for shaping provincial policy. Included in the stakeholder group category would be occupational associations, labor unions, business and industry, the Alberta Association of Students, various faculty or staff organizations, and institutions of higher and further education. The institutions of higher education would, no doubt, join together, as is the case in Ontario, to ensure that the views of the academic community are heard. It may be desirable as well to create mechanisms for the joint consideration of matters of particular interest to like institutions within the higher education sector. These might be established by the institutions themselves or by the department.

With the dissolution of the Universities Commission and the shifting of coordination and planning responsibilities to the Department of Advanced Education, it appears unnecessary that the Universities Coordinating Council continue to exist in its present form. The one remaining and major responsibility of the council is the appraisal of academic qualifications of persons applying for membership in professions and occupations governed by legislative acts. This responsibility could be delegated directly to the professional or occupational bodies themselves, subject to the scrutiny of a government-sponsored committee on professional and occupational qualifications. Such a committee could be composed of laymen, legislators and civil servants and should act as a kind of ombudsman to protect the public interest. The merits of this approach deserve careful study in conjunction with the results of the work initiated by the Legislative Committee on Professions and Occupations established in 1970, and recent legislation introduced in Quebec.

Higher Education Division

The Division of Higher Education would undertake direct liaison with the institutions presently under the jurisdiction of the Alberta Colleges Commission and the Alberta Universities Commission, as well as with the agricultural, technical and vocational institutions which have already been transferred to the Department of Advanced Education. The division also ought to be responsible for the following educational programs transferred from other government departments: forest technology, mental deficiency nursing education, nursing education, nursing aide education and psychiatric nursing education.

The major obligations of this division would be to coordinate, fund and guide the growth and development of all publicly-sponsored institutions of higher education. Responsibility would also be taken for the partial funding of private institutions and for linkages with them in planning. There are many problems of coordination expected to command the division's attention: necessary duplication of services; shared-use of learning resources; transfer of credits; and pooled-use of resources and information in planning, research and development.

The division's planning function would entail immediate and long-term clarifications of system and institutional mandates, appraisals of manpower requirements, and analyses of program costs. An essential feature of such planning would be systematic assessments in various program areas carried out in cooperation with all institutions. Such program assessments are intended to be broader in scope than appraisals, which focus on the drawing power and quality of a course or discipline at a single institution. They ought to be undertaken in the context of total provincial needs and resources. For example, a particular institution might have available special personnel, facilities and equipment that make it a natural choice for development of a particular program. In another instance, it might be demonstrated that a particular segment of society is short of highly qualified personnel, or is overstocked with them. In either case, such information would be weighed in making decisions with respect to further development, discontinuation or reassignment.

The Division of Higher Education might establish a central admission service for collating applications and acceptances for all institutions in the province. A service such as this would tend to reduce, if not eliminate, problems associated with multiple applications and acceptances. The accumulation of adequate admission data for planning purposes would be facilitated, and unplaced or uncertain applicants would be put in touch with institutions that have places available. These services should not, however, impinge upon the freedom of the parties involved. The individual could continue to state preferences while institutions could still decide on eligibility for admission.

Further Education Division

The related areas of adult and continuing education, and leadership training suffer from inadequate coordination and financing that is both inequitable and insufficient. Efforts by present agencies and institutions are hopelessly fragmented. The result is a scarcity of learning opportunities amidst a condition of some overlap. The Division of Further Education would have a first and urgent responsibility to resolve these persistent problems. And its long-term role should be to develop and maintain a coordinated program of further education throughout Alberta.

Direct contact would be maintained with the Banff Centre, the Alberta Petroleum Industry Training Centre and the Alberta Vocational Training Centres at Fort McMurray and Lac La Biche. Certain programs now under the jurisdiction of other government departments would also become the responsibility of this division. These include: apprenticeship and tradesmen's qualifications; educational programs in penal institutions; environmental, outdoor, cultural and recreation education; and regulation of trade schools.

Beyond providing coordination and leadership-service for public endeavors and funding on a program budget basis, the Division of Further Education must maintain very close liaison with the private sector. While some of the programs sponsored by corporations, labor unions, professional societies and the like, do intersect with those in the public sector, most function outside the formal system and independent of each other. Again, gaps and inefficiencies occur. One noxious outcome of the present dysfunctional relationships between public-private and formal-informal programs is that the under-educated are being deprived of opportunities for further education. Therefore, one of the critical roles of this division should be to stimulate self-help learning projects among disadvantaged groups. Another equally important role is to help shape the future contribution of business and industry in retraining.

common service units

The interdependence of the four phases of recurrent education should be reflected in our coordinating structures. Otherwise the ideal of lifelong learning is apt to become the hapless victim of jurisdictional disputes or oversights. One way to facilitate integration in a two department system is to have common service units serving both. Such a sharing arrangement is also likely to be more efficient, and certainly will be less costly, than separate or dual supporting services.

This common service unit approach typifies the flexible non-linear organizational structure of tomorrow, rather than the more familiar hierarchical one of today. It stands in contradiction to the "going-through-channels" syndrome which characterizes activities in many government departments. Instead, information and service would be freely accessible to those who require it. And discretionary decisions by service unit employees would tend to replace actions based on narrow, arbitrary and prescriptive directives from senior personnel. Working in a climate of linked objectives, collaborative relations and adaptive behaviors may not be easy for those used to more conventional conditions. But given time and a chance to participate in defining their roles, along with considerate leadership, such persons will rise to meet expectations. Indeed, the consequent opportunities for greater self-fulfillment should make them happier and more productive employees.

Three major groupings of services seem appropriate in the immediate future. However, if an Alberta communications centre for educational systems and services (ACCESS) is established, then further regroupings would become necessary.

Planning Unit

A unit for joint planning is indispensable. It would coordinate, support and supplement the work done in planning by each of the four operating divisions. Its prime objective would be to ensure the availability of data–the hard facts–that will enable legislators and departmental personnel to both make informed decisions and assess results.

The role of the Planning Unit will be elaborated in some detail in Section V. Generally, it is seen as being responsible for the identification of alternatives and assessment of the implications and cross-impacts of each. This will require constant communication with the four divisions of the two departments and their common service units, close liaison with other planning groups in education and related fields, as well as an awareness of the public pulse and probable future events.

Support Services Unit

Incorporated in this unit would be virtually all of the existing ancillary services which apply to both departments–audio visual; communications; correspondence school; educational facilities; finance, statistics and legislation; personnel; school book branch; and perhaps some facets of the PPBES and operational research units.

Since the educational facilities section could serve all levels and forms of schooling, including universities, there appears to be little justification for perpetuating the University Capital Development Committee.

Field Services Unit

The Field Services Unit would exercise a leadership-service role in coordination and planning at the regional and community levels. This role would be performed by personnel located in various regions of the province as part of a general decentralization of government services. The numbers of educators included in these regional offices of government may be expected to decline as local jurisdictions and individual institutions mature and become increasingly self-reliant.

For at least the next decade, field services personnel will need to devote much time and energy to the planning and development of programs in early and further education. Initially, however, the demise of Grade XII departmental examinations forecast in the process section of this report may intensify requests for assistance in basic education programming and evaluation. Persons in regional offices might also assist in the coordination of higher education programs where the service-areas of institutions overlap.

More information about the planning function of regional offices can also be found in Section V.

coordinating council

A more direct way to ensure that each of the two departments concerned with recurrent education is fully and continuously aware of what the other is doing is to establish an interdepartmental Coordinating Council. Such a council could be co-chaired by the Minister of Education and the Minister of Advanced Education. Membership might consist of the heads of each of the four divisions and of the three common service units. Among the council's more important duties would be advising the two ministers with respect to priorities and other significant policy matters; arranging for the implementation of government policies; and guiding the efforts of the service units.

Three bodies should report directly to the Coordinating Council. These include the recently-established Students Finance Board, and two new ones, a Research and Development Board and a Committee on Extra-Provincial Relations. The first two are seen as having an advisory role in policy development, as well as an executive function. Their membership ought to be representative of those affected. The latter committee would be advisory only, and have very close links with the Department of Federal and Intergovernmental Affairs. Subsequent parts of the report give attention to the nature of these board and committee endeavors.

education council

Social and personal goals for education are often elusive and changing. Because they set a standard against which performance must ultimately be judged, there is a need for some mechanism for monitoring closely and systematically what Albertans, individually and collectively, expect from their system of schooling. Further, increasing attention must be given to the questions of whether our substantial educational investment is being directed toward desired ends, and whether it is being expended with maximum efficiency. Finally, there must be some assurance that the enterprise will remain flexible and adaptable to its environment.

Traditionally, the provincial government and its agents have performed this judicial role along with the executive and legislative functions in education. Many have suggested that the judicial function might be better performed if it were separated from the other two. The principal advantage would be that more comprehensive and objective evaluation of the total educational system could be obtained from a viewpoint external to government and its two education departments.

It is proposed, therefore, that there be established an Education Council of Alberta that would report directly to the Lieutenant-Governor in Council. Essentially it would be a group ombudsman, for it represents another avenue whereby the lay public may be directly involved in assessing provisions for schooling.

The Education Council's role, as a kind of auditor-general, would be to evaluate our system of schooling on a systematic and comprehensive basis. It would recommend policies which, in the opinion of the council, would best help to realize the objectives of the system, and meet the short-term and long-term needs of Albertans. In addition to its regular reviews, the council should undertake special research studies which normally would not be conducted by the Planning Unit of the Department of Education and the Department of Advanced Education, or funded by the Research and Development Board. In many ways this council would function in education for Albertans in much the same manner as the Economic Council of Canada does in its field on a national basis.

It is envisaged that the council would be composed of persons from a variety of occupations, cultural and economic backgrounds, and geographic areas in Alberta. The number of members should be sufficient to be representative, but not so large as to be unwieldy; perhaps in the neighborhood of 20. They would serve on the council as individuals, not as delegates of particular organizations or groups. Members would be appointed by the Lieutenant-Governor in Council and would serve for a specified term, such as three years. In order to ensure the council's independent status and because it is the responsibility of government to deal with the recommendations from the council, no government members should be appointed to it. The council should be served by a very small full-time staff, the head of which would act as chief executive officer. Most of its research could be done on a contract basis, thereby avoiding high fixed personnel costs. Established as a Crown corporation, the council should have the right to publish without the prior concurrence of the government.

transfer of credits

Transferability of students from one institution or jurisdiction to another has been a serious issue for many years. The continuing controversy surrounding it has an unfortunate bias that emphasizes the rights of institutions rather than those of students. Because of our growing commitment to lifelong learning, it is imperative that barriers to transferability be minimized, if not eradicated. This ideal can only be achieved after the creation of a smooth and systematic method for the transfer of credits.

There are two main points at which the transferability issue can arise. One is between the various levels of recurrent education; for example, from basic to higher education. The other is between institutions at the same level; for instance, from a college to a university. Of these, the second is the most demanding of solution.

Regardless of where or when transfer occurs, the same twin problems are involved: admissibility or gaining entrance; and advance standing or the receiving of credit for work done elsewhere.

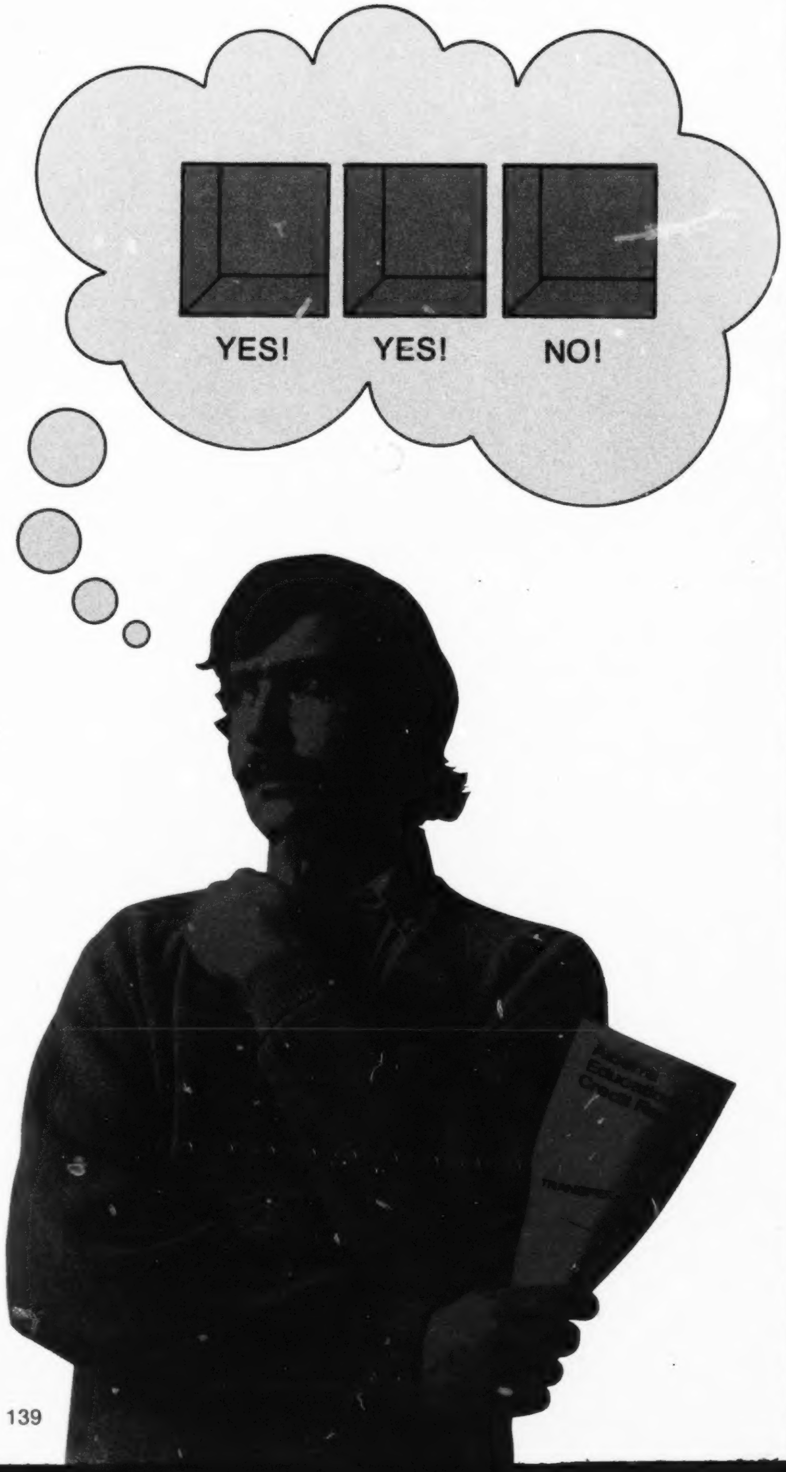
inter-level transfer

Early education, as it has been proposed, would not be a compulsory prerequisite to basic education. Instead, attainment of age six would be the normal requirement for entry into Alberta's basic level of schooling.

In the future, transfer from basic to higher education will be influenced by the substantial changes envisioned in the process section of this report. Discontinuation of Grade XII departmental examinations, and introduction of the Alberta Academy will, in part, serve to broaden the relatively narrow admission requirements that now exist in institutions of higher education. Acceptance of students is visualized as being based on any one of four different kinds of qualifications: school marks, a definition of maturity, credits from the Alberta Academy, or scores obtained on Department of Education power tests.

There is no adequate evidence that typically required basic education courses and standings in them constitute a reliable basis for predictions of success or failure in higher education. In fact, a learner's inability to successfully accomplish present programs may be more closely related to an institution's incapacity for fostering success.

Obviously a person's failure to meet admission requirements does not offset his or her need for higher education. The worst effect of present requirements is their tendency to dis-



criminate against those from lower socio-economic levels and minority social groups, such as the Metis and Indians. This injustice is most apparent in our universities. They depend almost entirely on secondary schools to sort their students for them–to tend the gate that lets some into privileged positions of society, and keeps others out.

Special consideration for admission to higher education must be given to those who have been placed at a disadvantage because of geography, economics, sex or race through wise and compassionate extension of the mature student qualification. An illuminating illustration of how this can be done is to be found in the elementary teacher education program for native persons being conducted at the University of Alberta in collaboration with the North West Territories Council.

Naturally, changes in admission policies must be accompanied by adaptations in higher education programs. Special activities or courses have to be offered to students without the usual backgrounds or credentials. Such orientation, academic upgrading, and career readiness programs have just been introduced into our colleges and institutes. Hopefully, the universities will immediately follow suit.

Another specific problem exists with respect to accreditation of high school vocational courses by the institutes of technology and the Apprenticeship and Tradesmen's Qualification Board. The institutes have been allowing first year credit to graduates of the vocational school program. It is often alleged that such graduates are not sufficiently prepared for entry into the second year. Full first year credit could continue to be given in future if followed by more adaptive instruction in the institutes. At the very least, advanced credit should be granted for those courses that are equivalent to courses in the first year of study at a technical institute.

Arrangements with the Apprenticeship Board have never been very satisfactory, apparently due to a reluctance on the part of the board to accept the vocational school programs for more than minimal credit. Arrangements for the future, based on cooperation and communication, must ensure that appropriate vocational courses and life-experiences qualify for increased recognition in apprenticeship programs.

Better linkage of vocational courses with institute endeavors and apprenticeship programs might be achieved by having advisory groups from the institutes, labor and industry appointed to work with the vocational schools' program development committees. Further, the Department of Education and the Department of Advanced Education ought jointly to provide a clear statement of program guidelines for industrial education. A declaration of this nature would help guarantee that persons completing vocational or technical courses in senior schools receive diplomas or certificates based on consistent and acceptable standards of achievement. At that time, steps must also be taken by these two departments, along with the Department of Labour, to make sure that these credentials are fully acknowledged by institutions of higher and further education, as well as various trade and occupational groups.

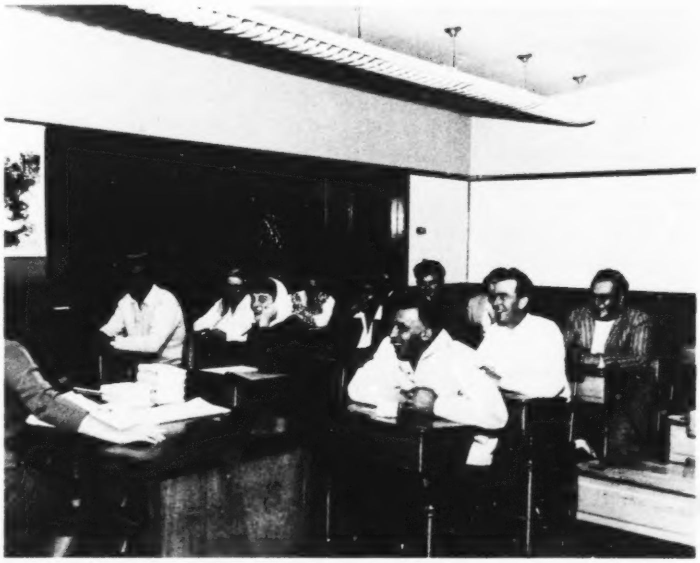
intra-level transfer

In basic education, transfer from one school to another is more readily accomplished when the receiving school and its teachers adjust to the achievement level of the student. Within Alberta, the transfer process at the senior school level is even more straightforward because of the credit system; credits being completely transferable regardless of where they were obtained.

However, no such clarity and realism prevails within higher education. Tradition, emotion and the jealous guarding of academic bailiwicks, particularly on the part of universities, continue to work hardships on students. Frustration, lost time and unnecessary expense is the result. This insensitivity to the human dimensions of transferability is further reinforced by the apron-strings mentality evident in current affiliation agreements, and in some recent reports on the problem.

The coordination of all colleges, institutes and universities by the Department of Advanced Education should help to overcome these difficulties. But better cooperation between types of institutions, and between institutions of the same type, must be rooted in mutual trust and respect–acknowledgement of each institution's integrity while respecting its independence. Such conditions cannot exist, however, where one institution has veto power over the programs of another.

The veto prerogative is often defended on the ground that the institution that grants degrees or diplomas must have the right to determine the content of programs leading to such awards. This stance usually results in the credentialing institution dictating precise specifications for courses or programs in related institutions, along with the necessary qualifications of instructors. In Alberta, this action is currently being taken by the universities with respect to colleges. While these actions are legalized by existing formal affiliation agreements imposed by the universities from a position of strength, it does not make them right either for today or for tomorrow. Aside from the immorality, the absurdity is obvious. Often in large enrollment university courses such wide variations exist



in content and method between sections that they are almost totally different from one another. Moreover, some courses are taught by graduate students less qualified than college instructors.

Insofar as clearly designated transfer programs are concerned, the problem of advance standing within the receiving institution can be readily solved by giving the sending institution responsibility for certifying student attainment. The corollary being, of course, that the receiving institution has the obligation to accept the transferring student with credit for work successfully completed at the sending institution. Except for continuing consulation with respect to the nature of program content, and the process of education generally, receiving institutions would not interfere with sending institutions' programs. While such an arrangement would be a reversal of the norm in higher education, it is precisely what occurs in early and basic education. The policy is equally applicable to university transfer programs in colleges, to institute transfer programs in colleges, to transfer programs between the colleges at Fairview, Lethbridge and Vermilion and the one at Olds, as well as to the Alberta Academy.

The experience with advance credit in many American states is one of overwhelming success. Students completing programs at junior colleges have proven to be minimal value risks at baccalaureate institutions. Therefore, it is reasonable to believe that the proposed transfer arrangement, based on mutual trust between the institutions involved and administered in the best interest of students, will be advantageous for all parties. A recent Alberta study of the success of college transfer students gives added support to this assertion.

A notable example of a similar transfer agreement in general education exists among the public junior colleges and baccalaureate institutions in Florida. Each institution creates its own general education program equal to approximately one year of study. These programs transfer as a single element to any other participating institution. The receiving institution does not analyze in detail the courses that compose the general education program, but recognizes the program as a single unit, thus honoring the integrity of the sending institution. This open attitude is essentially the philosophy underlying the proposed foundation year of the Alberta Academy.

In the case of related programs a different policy based on the same principles seems appropriate. Thus, completion of an allied-career two-year diploma program in a college or institute could be deemed the equivalent of one year of the associated university degree program. Precedents already exist for this kind of advance credit arrangement. A student completing certain two-year programs in engineering technology at NAIT can receive credit for one year toward an engineering degree at the University of Alberta. Normal school graduates in years past were credited with a year toward the Bachelor of Education degree. This kind of transferability could be extended to a number of other programs in agriculture, business administration, health sciences, and the like, with continuing consultation between the sending and receiving institutions.

For those students who only partially complete programs or substantially alter their career aspirations and then wish to move to another institution or program, transfer of credit will have to be negotiated on an individual basis. In these instances, more emphasis might be placed on conditional transferability, subject to verification by performance, as opposed to the more formidable barriers posed by the proficiency test or challenge for credit approaches.

A very significant career benefit would accrue to many Albertans from these transfers of credit. Currently the most important factor in a career is the level and type of training received; the higher the initial level of training, the greater the individual's chances of continued success. For this reason, most college and institute graduates are faced with more limited prospects for career-advancement.

One way to increase the career-chances of college and institute graduates is to enable them to move with greater ease toward a higher credential. The foregoing transfer proposal would accomplish this objective. Still another long-term method of changing the regrettable correlation between level of entry into working life and career prospects is to drastically alter future personnel policies. This could be done by dissociating career development or advancement from the educational level of entry into that career.

For young people going into economic life their credential should be only a criterion of fitness for a first job, not a guide for future advancement. Later, a sounder assessment should be made of the person's aptitudes and his or her initial credential forgotten. To reopen the door to lifelong learning and greater self-fulfillment for non-university graduates means fighting the professional castes and their established privileges. It will be a long and difficult struggle with many of the trappings of a revolutionary war or religious crusade. But it is an action that should be launched at once.

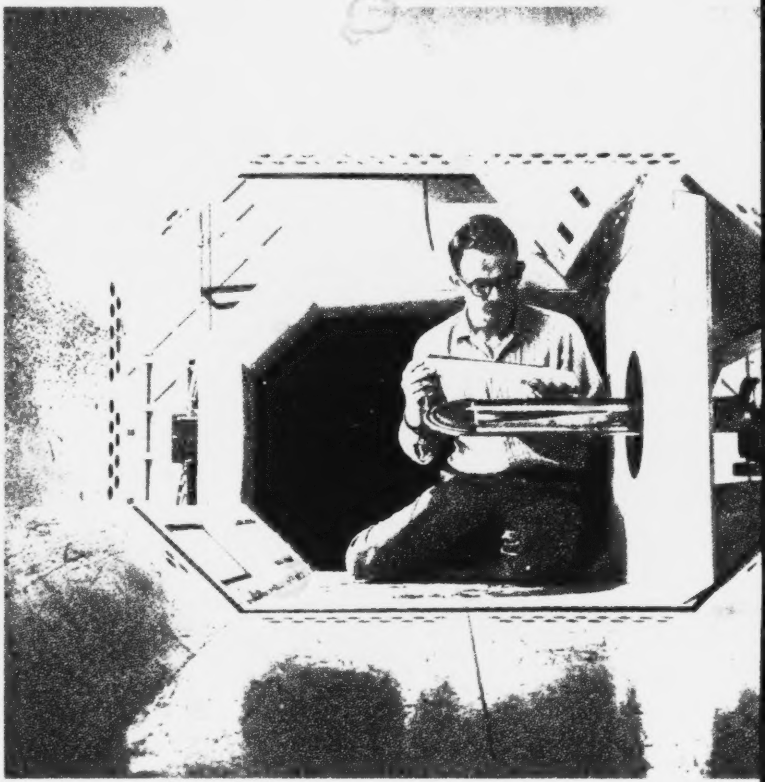
If the foregoing proposals cannot be made to work, then a province-wide credit system in higher and further education will probably be required. Its adoption would, in effect, be merely an extension of the basis for transfer now used in the senior high schools of Alberta. The great difficulty in assessing requirements for transfer under present circumstances is the value that the receiving institution is prepared to put on the various courses completed elsewhere by the learner. The essential difference between the credit system and our present one is that the amount of work required of a student would be expressed in credits rather than in courses.

The principal advantage of the credit system is its flexibility. It would allow students to carry credits from one institution or program to another. And it could easily make allowances in its weighting system for courses of widely differing concentrations and requirements of work. This system could also readily accommodate the sort of colloquium, alliances, workshop and interdisciplinary study groups that only fit very awkwardly into a conventional course structure. Moreover, it permits the offering of activities or courses of varying lengths at various times in the year, and is readily adaptable to the use of the learning systems described in Section VI. The credit system specifies the number of hours involved in the experience, and these hours could be taken in a month, a half-year or a year.

Basically, credit points correspond to small learning units or modules transferable between fields and levels of study, and between various types of institutions. Many features of such a system have already been introduced in Quebec and in some parts of the United States. However, their implementation elsewhere is a rather new phenomenon and mostly limited to single institutions or to institutions of one type. Among the more promising proposals for facilitating the transferability of credits in higher and further education, and throughout a system of recurrent education, is the French concept of *unites capitalisables,* and the German *Baukastensystem.* A further step is the Swedish idea of eliminating all types and levels of degrees and of replacing them by certificates indicating the number and subject content of points acquired. Learners are allowed to terminate their formal studies whenever they wish, and whenever their number of points is considered sufficient for a particular job or activity. The individual can resume schooling at any time with his or her points augmented by work or life experiences.

Many practical operational problems have to be solved to bring about a credit system appropriate to recurrent education in accordance with the principles of equity and quality. For example, appropriate criteria would have to be drawn up for transferability of points between fields and stages of study, and between institutions. A set of conversion keys for different subject and stage combinations would require definition.

The conversion or compatibility problem might be resolved if equivalence could be established between the first part of degree programs at universities and diploma courses provided by colleges and institutes. In practice, a few lasting solutions have been found–and some have failed. Of these, at least conceptually, the most interesting was the Yugoslav notion of program inversion. According to this scheme, the practical or vocationally oriented courses would come at the beginning of higher education studies, and the more theoretical afterwards. Applied in Alberta, this would provide complete equivalence between short-cycle college or institute higher education and the first two years of regular long-cycle university education. Students in each type of institution at the end of their first two years would have the choice of either continuing their studies or entering the labor force with a recognized intermediary credential.



Even if program inversion in the immediate future should be considered unrealistic and difficult to implement, later sections of this report stress the need for a continuing search for activities, experiences–courses, if you will–common to various fields of study or families of occupations, and to institutions providing schooling of different orientations and stages of sophistication. Substantial progress has already been made in finding common courses or activities directed towards related or neighboring fields of study, such as medicine, dentistry, pharmacy and various aspects of engineering. But usually these courses are found within the same institutional type. Much less has been done toward finding such common courses for doctors, nurses' aides and laboratory assistants; for engineers and technicians; for architects and draftsmen; for sociologists, psychologists, social assistants and welfare workers; for teachers and learning assistants. While it is recognized that a high degree of standardization would have some drawbacks–in a process, but not a cost sense–much more of this kind of transferability and career open-endedness must prevail in the latter third of the 20th century if we wish to develop a person-centred society.

local level

As services for recurrent education expand at the local level under variable sponsorship, the importance of coordination and cooperation will be magnified. Early education programs will need to be linked with those in basic education. Shared-use of resources among institutions for schooling at different levels will require negotiation. Greater acceptance of the community-school notion will create demands for collaborative funding and governance. New delivery systems like Early Ed and the Alberta Academy, as well as the entire ACCESS concept, will challenge conventional arrangements. And experimentation with the total services approach to meeting human needs will call for a redistribution of power and personnel.

Prevailing procedures for coordination at the local level are likely to collapse under the strain of such demands. Different structures and processes must be invented. The school councils and regional learning centres suggested earlier are illustrative of these. Others are proposed in the section on planning, and some are noted here. In the final analysis, the initiative for improving coordination to obtain maximum benefit from scarce resources rests with the local community. The citizens of this province simply must help each other.

regional service centres

A number of government departments, including the two departments in education, already have regional offices or field personnel distributed throughout the province. The next logical step at the local level is to combine–on the supermarket principle–all such services and programs available to the people of the province. With this departure from tradition, the provincial government could come to the people through a series of regional service centres.

The idea that people may like one-stop-shopping for government services might be elaborated to include what amounts to an ombudsman for every customer. Visitors to the centre could be greeted by a receptionist for an interview to catalogue problems and questions. From these data, a diagnosis would be made as to what services or programs the visitor may wish to become familiar with. If these service centres also stocked school and municipal government commodities, then the range of alternatives should delight each shopper.

Such a regional service centre, staffed by representatives of 26 provincial and federal government departments, was recently opened in Prince Edward Island on a test basis. In British Columbia the formation of regional districts–somewhat similar to the amalgamated divisions advocated elsewhere in this report–have assumed much of the same kind of responsibility for coordination in several key dimensions of community life. These two developments should be watched with care. They illustrate that regional multi-level government offices have a capacity for service that exceeds a single area of concern, such as education. This capacity could be tapped at relatively little cost by imaginative reorganization. The positive impact on local communities might be startling.

total services approach

Closely related to the foregoing is the total services approach to meeting human needs. Rarely has any community agency undertaken responsibility for the person as a whole. Services have traditionally been segmented and organized for delivery on a vertical or hierarchical basis. But emerging organizational theory strongly supports a horizontal and participative approach. No longer should a service to alleviate a specific problem, or meet a specific need, be delivered by a specialist responsible only to a supervisor and, hence, to an external organization. Instead, collegial teams should concern themselves with the total person in his environment. Responsibility could be equally shared and largely maintained within the community. This kind of a comprehensive approach to the provision of community services is now being followed in the West-10 Project in Edmonton.

There are a number of specific areas in which a total services approach is warranted. One is in connection with the handicapped or learning disabled student. The advantages of interagency and interdisciplinary approaches to prevention and remediation are so apparent that it is difficult to understand why it has not already happened. In large urban areas the local board of health, the social service department and the pupil personnel services of school boards provide a framework for interagency cooperation. In rural areas, the health units, regional offices of the Department of Health and Social Development and the Provincial Guidance Clinics also provide a partial framework. In both bases the comprehensive regional learning centres previously proposed, which may be thought of both as a place and as a concept, have remarkable potential for taking a look at the whole child.

Another place for the total services approach is in dealing with native peoples. The provision of educational services alone as the panacea for the problems of the Indian and Metis people is doomed to failure. Attempts to bring native families to the cities for schooling have been largely unsuccessful. Almost invariably they have returned to their home communities where employment is scarce or non-existent. The short-run solution would appear to be the coupling of schooling with economic development programs, which will assist Indian reserves and Metis colonies to become healthy and productive communities. In the long-run, however, the native peoples will need assistance to help themselves learn to cope with urbanization.

Yet another illustration is to be found in the linking of early education and day-care. To view the latter as mere baby-sitting is nonsense. Day-care centres serve as a partial substitute for the home learning environment. Thus, what goes on in them is extremely important. Learning occurs. We must ensure that it is good learning–the kind that the child's parents endorse. Furthermore, child-development–nee day-care–programs offer a golden opportunity for the prevention, diagnosis and treatment of learning disorders.

community-schools

Schools are the logical focal points for total community service programs. They are conveniently located. Their space and equipment are adaptable to many uses and can often be made available when needed. For many people, the community-school is synonymous with the use of the school plant by community organizations and agencies during evenings and weekends for recreational, social and informal educational activities. These activities bear no necessary relationship to the daytime process of schooling, and are mainly concerned with the effective utilization of resources. The community-school concept recognizes the importance of community use of schools. But it also goes beyond that relatively narrow notion. Proponents of the community-school view it as having an obligation toward total neighborhood needs, which can best be discharged through widespread school-community-other agency interaction and reciprocal use of resources.

Hence, the community-school can serve society in at least four ways: as a place for schooling where children and adults have optimum opportunities for learning, and access to counselling and information services; as a neighborhood centre where citizens of all ages may take part in a multiplicity of activities, including sports, physical fitness programs, recreation, arts and crafts, drama, civic meetings, and many other refreshment and leisure-time activities; as a vehicle for the delivery of health and social development services, legal aid, employment information, and other assistance to individuals and families; and as a focus for community life, assisting citizens in the identification, examination and solution of neighborhood problems. Serving people of all ages throughout the day and the year, the community-school would help them learn how to improve the quality of personal and group living. It would have deep ties in its local neighborhood. But, in the case of differentiated or special schools, participants might be drawn from a larger constituency.

The community-school concept must not, however, be introduced to the detriment of the fundamental purpose for which schools exist. Therefore, it seems necessary to suggest the following categories of school use, in order of priority: prime consideration should be given to the basic education function; secondary consideration should be given to early and further education programs; and after all educational needs have been met, consideration should be given to other social services and various community activities.

Unquestionably, breathing life into this concept will result in additional costs. However, the cost increases may not be as great as might be expected if the concept is implemented as an alternative, rather than as an addition to existing arrangements. As other people-services are added to schooling, the funds they would normally be allocated should follow them to the school. For instance, municipal recreation endeavors can readily be melded with the school's basic program. The money usually assigned to support recreation could, therefore, be contributed to the budget of the community-school.

Fears that maintenance costs would skyrocket appear ill-founded. A substantial portion of utility costs remain whether the facility is in use or not. Some custodial and supervisory activities might be undertaken by adult volunteers or part-time student employees, rather than by regular staff on overtime. And facilities designed and built with community use in mind ought to be less expensive to maintain. Compared to the probable benefits to be derived from expanded use of schools, increased expenditures for upkeep are minimal. They might better be viewed as an excellent investment.

The recently completed Alberta Recreation Plan Study strongly supports the development of more community-schools. Why not go further? Is it not an ideal to which all schools might aspire in the future?

inter-provincial relations

Constitutionally, responsibility for education was assigned to the provinces. The result is that in Canada we have 10 distinctive educational systems that operate independently from one another. It is apparent that the increasing mobility of Canadians will necessitate greater coordination and cooperation among provinces. Another factor that will likely tend to bring about interprovincial cooperation is the rising cost of education generally, and the prohibitively high costs of certain specialized programs and facilities. Cooperative arrangements will be difficult to negotiate because they will most certainly require some sacrifice of provincial autonomy in education. It is, nevertheless, reasonable to expect that provincial insularity will, of necessity, be reduced in the future.

There are a number of matters in which consultation might lead to cooperation. The Committee on Extra-Provincial Relations identified on page 138 is envisioned as being charged with the responsibility of identifying and studying those problems which are of particular concern to Albertans.

One obvious problem is that of attaining equivalence in basic education. Some means of coordinating basic education programs must be found in order that students may transfer from one province to another without undue difficulty. In 1969-70, over 141,000 Canadian school children crossed provincial boundaries for schooling. The flow in and out of Alberta is more likely to increase than decrease in the years ahead. Also, because of the growing mobility of our citizens, the comparability of professional qualifications and certification among the provinces looms as a serious issue. This matter is of particular interest to teachers, but they are not the only occupational group affected.

Joint sponsorship of specialized programs and facilities should be actively sought. Where costs are high and enrollments are low, it makes good sense for two or more provinces to share, rather than duplicate. Not only is this approach more economical, but it provides services for Canadians that would otherwise be of low quality or non-existent. For instance, if it were determined that there exists a need for a school of optometry in Western Canada, it might be established as a joint venture by the four western provinces. Precedence for this form of cooperation has been set by the creation of the Western College of Veterinarian Medicine in Saskatoon, Jericho Hill School for the blind and deaf in Vancouver, and the School of Library Science at the University of Alberta.

Much could be done among provinces to rationalize costly doctoral programs. Not only is there current concern about the total output of PhD's in Canada, but it is obvious that many programs are not economically justifiable because of the excessive duplication that has been allowed to occur. A recent survey showed that there were over 200 different doctoral programs in Canada, each with less than five full-time students enrolled.

Other facilities or programs that might be developed on a cooperative basis include: specialized residential or hospital schools for exceptional children; educational television networks; information retrieval systems and data banks; soft-ware for ventures like Early Ed and the Alberta Academy; and learning materials with a distinctively Canadian flavor.

Accommodation of out-of-province students will also pose a vexing problem in the immediate future. Due to rising costs and a shortage of resources, quotas have already been placed on out-of-province enrollment in certain provinces and similar measures are being considered by others. These practices could lead to a balkanization of Canada, as well as to a massive influx of students to open provinces. The probable cultural and fiscal consequences of this are appalling. These consequences must be examined by all Canadians.

The logical vehicle for interprovincial coordination to help solve these and other problems is the Canadian Council of Ministers of Education–even though its performance to date has been disappointing. To function effectively, the council would have to be strengthened, both in terms of stability of membership and the extent of its authority. It would have to meet more often and be accorded greater status by individual governments to ensure that its recommendations will have greater impact. Additional staff would be required to serve the council in its deliberations and to maintain the necessary liaison among the provinces on a continuing basis. A vigorous Canadian Council of Ministers of Education would place the provinces in a more advantageous position than at present with respect to federal-provincial negotiations in education. It could also serve as a countervailing force to a federal office of education, if one is established.

federal role

In spite of the provision in Section 93 of the British North America Act giving provincial governments complete jurisdiction over education, there is a long history of federal involvement in educational matters. Between 1867 and 1960, for example, parliament passed over 80 separate pieces of legislation relating to expenditure on education. These acts dealt not only with the education of Indians and Eskimos, a matter traditionally conceded as being a federal responsibility, but also with technical, vocational and university education. The educational programs, which were the subject of federal legislation, have expanded continuously and, as a result, there has been over a ten-fold increase in the expenditure of the federal government on education in the past 15 years.

Quite apart from precedents, however, there are several compelling reasons for an even greater federal presence in education in the years ahead. The most important is the growth of economic interdependence among Canadian provinces in respect to markets, products and manpower. The fiscal ability of Alberta to support an adequate educational system will be increasingly affected by forces over which it has little or no control. Moreover, the demands for occupational preparation opportunities in various disciplines and professions in Alberta's institutions do not bear any direct relation to the needs or the financial resources of the province. For example, Alberta is fast approaching a position of supplying to other provinces medical doctors who have been produced at a high cost to this province. The problem of graduates leaving the province in which they studied is offset to some degree through federal contributions to provincial expenditures on higher education. Apart from this particular financial issue, it is clear that the federal government can best study and influence the integrated national economy and see to it that manpower skills are developed in the face of regional disparities. Only the federal government can develop the comprehensive information system required to carry out this kind of social accounting. It is true that speculating about the future of society, its productive machinery, its products and services and their distribution, is an extremely hazardous business. However, some planning is essential at the national level to avoid creating a situation in which thousands of young graduates face a future full of dissatisfaction, as a consequence of expectations that do not match reality.

Another reason for national planning arises from the interrelated impact of public services. It is becoming increasingly evident that many services in the public sector are complementary and that to maximize the effect of any one it is necessary to involve or influence the provision of others. For instance, in the elimination of poverty it is recognized that education plays an important role. However, the provision of adult retraining programs is only really effective when combined with income maintenance and health programs. The demand for concurrent and comprehensive governmental responses to the needs of individuals may be expected to grow with the urbanization and industrialization of our society in the decades to come. The federal government, like all other levels of government, will want to shape the course of education, if for no other purpose than to protect and maximize its investment in related services.

There is also a need for future federal concern in the fulfillment of our obligations to the developing world in the provision, for example, of certain skills and educational opportunities. In particular, the federal government should undertake full responsibility for providing financial assistance to foreign students from underdeveloped countries. Similarly, the federal share of the cost of research ought to be increased–for research is more a national and international commodity than a provincial one. Yet another place for more federal investment in education is in support of Canadian textbook, film and learning materials industries.

Finally, the case for a more decisive federal role in education in the future relates to our very identity and survival as a nation. Opposing groups–French-English, rich-poor, young-old, red-white, management-labor–are drawing further apart as they attempt to reconcile conflicting interests. The integrity of our nation will depend upon how effectively these divisions can be narrowed and the extent to which harmony replaces discord. Application of the principle of unity in schooling ought to be a national imperative.

In these circumstances it is important to ask: what form or forms should the federal role take? There are probably as many different answers to this question as there are people asking it. And no single answer may be the right one, or permanently right. A partial answer–and a good place to begin–is with the establishment of a federal office of education to undertake the task of giving a coherent voice to the federal presence in education. It could also provide a unified and comprehensive information service to the provinces, promote and support an adequate program of research and development in education, and conduct a continuous study of fiscal problems. An embryonic structure for such a federal office already exists in the Educational Support Branch of the Department of the Secretary of State.

The key point to bear in mind is that the federal government's role in education will not be less costly in the long-term future than it is today. The contrary is likely to be the case. Meanwhile, as changes in the federal role are being worked out over the next few years, the federal government's financial contribution should be no less or no different, in any aspect of education, than it is at present.

perspective

The proposals for revising structure offered in this section of the report are meant to reflect the emerging humanist values summarized in Figure 2. They are also intended to move Albertans toward the system of recurrent education depicted in Figure 3, while encouraging the developments in process envisioned in the next section of the report. The emphasis in the proposals is on the diversification of services in an evolutionary manner to ensure meaningful continuity in learning and prudent use of resources.

In early education, the senior years of basic education, higher education and further education, where participation is optional, variability in the forms of organization, governance and coordination is somewhat greater than in the required phase of basic education. This distinction is an attempt to reconcile our need for diversity with our need for unity.

In both the optional and required aspects of schooling, however, a setting is provided in which the benefits of various approaches can be assessed and further alterations identified. For example, the Commission is of the view that two education departments, properly coordinated, will be able to deal effectively with the important challenges facing schooling in Alberta in the next few years. The most significant of these challenges will be the comprehensive and orderly development of the two sectors that are presently neglected–early education and further education–each of which will receive the attention and benefits from the resources of one of the departments. When the early education and further education sectors are well established, or if the efforts of the Coordinating Council do not effectively integrate the work of the two departments, it may become advantageous to reorganize the two departments into a single Department of Recurrent Education, incorporating all levels and types of schooling, in order to adequately support a system of lifelong learning in Alberta.

It is known that the more rapidly the environment changes, the shorter the life span of administrative structures. Given the pace and turbulence of change forecast in Section I, Albertans may expect to move from long-enduring forms of organization, patterns of governance, and means of coordination to more temporary forms. Structurally we will be going from bureaucracy to ad-hocracy, from permanence to transience.

PROCESS

Earlier sections of this report suggest a sort of conceptual agenda for future schooling in Alberta. Attempts are made to anticipate the opportunities, the constraints and the imperatives that will shape schooling in the future. A new sense of direction is advocated. Goals and functions for the various formal stages of recurrent education are identified and offered for consideration. And some styles for organization, governance and coordination are proposed to accomplish these goals and functions. Certainly such an agenda is needed. But it may not bear much relationship to what will actually happen when learners and teachers meet.

How do the concepts of this report relate to the actual learning process? What makes a learner a learner? What learning is of most worth? What more can teachers do–and how? Such questions as these can have a very sobering effect upon even the most intoxicating educational theories.

The intention of this report is not to list glib cure-alls. The educational skyline is already ablaze with neon offerings of patent remedy. Few of these remedies are backed by enough evidence to justify any claims that one new approach is necessarily better than another–or worse. The process of education is so complex, and the potential remedies so numerous and difficult to test, that optimism must be tempered with considerable caution. The contribution of this report will be to indicate some ways in which our institutions for schooling, now in transitional stress, can begin to reconsider the learning transaction.

This discussion of the educational process employs as building blocks the many rich and varied ideas volunteered to the Commission by interested persons. These blocks are laced with the mortar of expert opinion that has been solicited from a wide variety of sources. The resulting form or configuration is more like a shopping mall than a specialty store, and more unfurnished than furnished. Those who wish to analyze the form must furnish their own details since this section will deal only briefly with three general models of future program operation, and some, but not all, of the assumptions underlying each. It will then examine six of the basic variables in process and will conclude with a discussion of process efficiency.

In this section the term curriculum will be used to define everything that happens to learners during the lifelong learning process. The learner's curriculum extends far beyond the bounds of institutions out into the home, the community, the street and the highway. Its effects determine an individual's life-style. Only part of this curriculum can be planned; the rest must be viewed as a cultural probability. The planned part is what schooling is all about.

Recognition that education must become lifelong, life-wide and future-aimed is inevitable. Our present vague understanding of this need has already resulted in demands for significant changes in the programs of our institutions for schooling. Tomorrow's schooling must be in harmony with the broad social change that has already begun. Today's students rightly criticize the relevance of both what they learn and how they learn. The processes of schooling cannot be divorced from the process of living. This report makes that point through its principles of context and personalization; others less polite make the same point by saying that the schools are teaching too much rubbish and too little love.

program operation

Most of the suggested changes in process imply a preference for one of three basic modes of program operation. These different modes of program operation are contrasted in a very simple fashion in Figure 12. While numerous combinations and adaptations of these modes are possible, and many are now in evidence, a black and white delineation of their differences is helpful in clarifying issues and identifying courses of action.

The essential difference among the three modes is the locus of authority. In the first mode it is external. The program is prescribed by someone other than the learner. In the second it is shared. A group of learners determine what and how they should learn. In the third it is internal. The individual learner formulates his own program. At the present time, the institutional mode relates to most formal schooling; the membership mode to certain kinds of adult education, drop-out centres and educational communes; and the autonomous mode to many of the free schools and universities and radical non-schools.

mode I: institutional

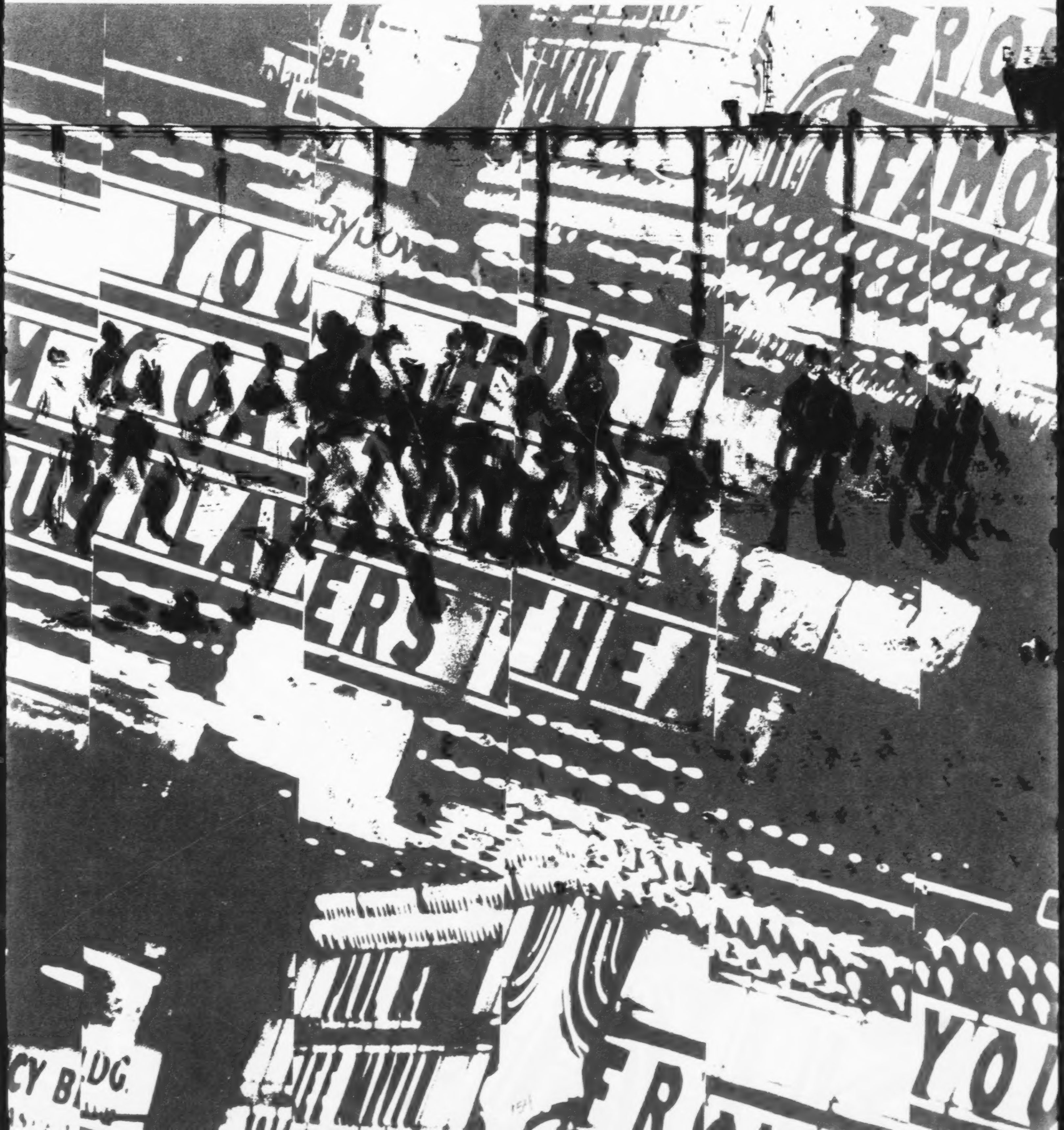
Those responsible for operating the institution should stipulate the program. This includes governing boards or councils and the professional staff. While the needs and interests of students should influence program decisions, students will not assume a significant personal role in determining what will be taught.

Since content would generally be wholly known prior to actual teaching situations, systematic planning for efficient instruction is facilitated. Objectives can and should be made explicit, prerequisite competencies described, and the entering characteristics of the learners understood. The definition of behavioral objectives brings the needed clarity to program designs and enables the staff to apply their professional knowledge of the conditions of learning.

Behavioral objectives are phrased in terms of something observable which the student will do. By doing these things he will satisfy the program developers' purposes. Content is generally drawn from conventional disciplines or subjects, and teaching consists of activities designed and performed so that students will know the behavioral objectives in advance, and be able to achieve them.

Normally the decisions about objectives and content are made by specialists, prior to the actual instructional situation. Sometimes a number of mediated learning systems will be team-designed for use by the teacher. Professionals almost exclusively bear the major responsibility for decisions about instruction.

With a program pre-planned, tested on a sample group of students, revised and evaluated in advance of regular classroom instructional situations, teachers are expected to have more time for those tasks they should be able to do best, such as motivating students, selecting the conditions for learning and assessing student performance. Taken as a whole, this sequence of events leads to more efficient instruction than is generally being achieved in classrooms at present. The mode described here is the goal toward which most institutions are striving, not their present level of performance.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The institutional mode is a logical extension of traditional practice. It is quite compatible with the teach-the-right-answer or ask-the-right-question approaches to instruction followed by most teachers from nursery to graduate school. It is advocated by many specialists in education, as well as by members of the business community concerned with tightening up what they perceive to be an inherently flabby process. With the application of emerging technology and a rational analysis of the activities of teaching, learning and evaluation, institutions are envisioned in which systems analysis, behavioral objectives, cost-efficiency computation, modular scheduling and computer-assisted instruction will bring accountability to learning. The values underlying this mode of program operation seem closely attuned to those of the second-phase industrial society.

mode II: membership

The program should be formulated by a group of persons who have chosen to learn together. The objectives they choose may concern any kind of subject matter, but it is the collective objectives that are of primary importance, not individual enhancement. While there should be agreement about the importance of the objectives, there also should be satisfaction in the association itself. The work of the group, in addition to achieving its objectives, should be to maintain the group as a working, learning unit.

The role of the learner in this mode of program operation is that of a member rather than a student. The learner usually joins the group freely and voluntarily. Each learner participates in the choice of ends and means and in determining the worth of the group's joint efforts. The learners, then, are not dependent upon some institutional authority, but together shape any rules that may guide their membership behavior.

The group may employ or accept a teacher or some other kind of special resource person to help them in achieving their objectives. However, once the specialist has served the purpose for which he was selected, he is dismissed or may remain as a member of the group. If the teacher has authority in this kind of learning situation, it is only with respect to the particular knowledge he has, and his authority must be granted by the learners.

Many adult educators, social animators and community development personnel urge adoption of this mode. Every group, if allowed to develop naturally, evolves its own unique learning style. The arbitrary authority of age and credentials, and to some extent, expertise, is out. Learning to understand the group environment, and each person's equity in the group, are acknowledged goals. A less formal, more functional arrangement of learning space is imperative to the membership mode. Moreover, any physical boundaries of the classroom are to be pushed back. Process becomes more important than product; the journey more important than the destination. The learners move out into the neighborhood to test and taste reality–just as they invite various community resources back into the institution. Either way the walls dividing schooling and life come tumbling down.

mode III: autonomous

In this approach, the learner should be the authority on the objectives, content, methods and effectiveness of his learning. He should take over the direction of his learning, assuming control over the whole sequence of decisions that will be made in the course of attaining his goal. He may consult individuals, references, instructional programs and other resources, but only when and because he decides to. He uses only whatever information and accepts only what guidance he thinks is appropriate for his purposes.

What the learner does need is temporal and spatial freedom to think and explore. He can be aided by having readily accessible a rich and wide variety of resources, as well as some autonomous learning models from whom he can learn.

Because most proponents of the autonomous mode–largely students and a few laymen and educators–view knowledge as inherently indivisible, the use of pre-packaged courses is generally opposed. However, some favor media packages or unit-sized modular learning systems which would respond in broad, interdisciplinary ways to student-initiated inquiry. Technology is not eschewed but it must allow wide exploration and be learner-controlled. Similarly, because the learner is himself the prime architect of program, the traditional goal of coverage must be abandoned to allow the learner freedom to pursue his own concerns. Prepared programs are no longer considered an end, but rather a starting place for learning.

This mode is capable of considerable extension. For instance, some proponents of learning autonomy see it as a vehicle for mastery learning using systematically designed auto-instructional courses similar to those described for Mode I, with the important difference that learners would choose and control these courses, not teachers. There is no reason why those who want highly structured learning materials cannot operate in this mode independently, at their own speed and according to their own learning objectives. However, they would have to have a wide choice of materials to do so.

Learning by experience is probably the watchword of this mode–whether by manipulating materials in early education, work-study programs in basic education, apprenticeship activities in higher education or do-it-yourself projects in further education. Individual exploration becomes more important than following the herd, and freely chosen learning-by-doing is the ultimate answer to all cries for relevance.

Obviously autonomous learning is largely an independent proposition, although human help must be close at hand. Large group activities are substantially downgraded, voluntary attendance prevails, threatening environments are outlawed and the conscience becomes guide. Self-actualization is the goal of living, and, as the existentialists would say, man is held responsible for what he does, as the sole author of both his terror and his contentment.

Figure 12
Form of Selected Process Variables by Mode of Program Operation.

PROCESS VARIABLE	MODE I– INSTITUTIONAL	MODE II– MEMBERSHIP	MODE III– AUTONOMOUS
Organizational Model	Corporate Enterprise	Cooperative Enterprise	Individual Enterprise
Learner	Dependent	Interdependent	Independent
Objectives	Pre-Determined	Jointly-Determined	Self-Determined
Content	Disciplines or Subjects	Problems or Themes	Interests or Concerns
Teacher	Director	Facilitator	Consultant
Methods	Teacher-Centred Product-Oriented	Group-Centred Process-Oriented	Individual-Centred Performance-Oriented
Evaluation	Formal Norm-Referenced	Semiformal Group-Referenced	Informal Self-Referenced
Perspective	Doing Things To	Doing Things For	Doing Things With

implications

If all of the proposals about the process of education brought to the attention of the Commission were classified, each according to its natural mode, some fundamental similarities emerge. For example, almost all proposals classified under Mode I would impose, suggest or at least prefer the following: a program which is largely externally prescribed; considerable pre-planning either by teachers or by others, including preselection of learning materials without learner consultation; selective use of specialists or consultants during the planning stage; learner dependence on some formal learning procedure; a degree of institutionally-imposed learning standards and evaluation procedures.

While differing markedly from Mode I proposals, those in Modes II and III have a number of features in common. Learners would operate without dependence on external authority. No institutional representative would be in control of rewards and assessments; the criteria for learning would be chosen by the learners themselves. The principal differences between proposals found in Mode II and Mode III centre around group concern and individual initiative; group dependency and individual resourcefulness.

The important distinctions described in the foregoing modes reflect the variety of strong forces currently at work to influence the substance and form of learning and teaching. These differences also indicate that there is no one best mode of instruction that satisfies everyone's point of view or every set of learning conditions. Most learners will operate better in one mode than another; so will most teachers. Certain subject matter falls more naturally into one mode than another. Indeed, certain career choices will parallel one mode or another. But there is no universal mode. This means that tomorrow's learning transaction must be responsive to situational factors: the characteristics of the learner; his objectives and those of society; the nature of what is to be learned; and the human and material resources available. And, as demonstrated in the futures-forecasts presented in Section I these situational factors will be changing substantially in the years ahead.

Surely the implications are clear if we will but open our minds. The three modes actually mirror the three modes of our very civilization: society, the family group and the individual. We may prefer one to the other but we must be responsive to all three or there is no civilization–not even a primitive one. These three modes must remain open. The only option is when and how we experience all three, not whether we experience all three. It is hardly conceivable that we might learn in one mode, work in a second and live in a third, yet many people are reduced to doing just that. In this context the phrase, *let's put it all together,* has the ring of anguish.

All three modes and their variations are needed in the daily operation of the early, basic, higher and further phases of recurrent education. Greater emphasis should be placed on Mode II and Mode III, but this does not mean that Mode I should be eliminated–it has certain attributes that will always be needed. Learners may concentrate on one mode in one term or in one subject, and another in the next; some schools may specialize in one mode; students may be counselled from one mode to another as a form of behavioral therapy–but the elements of all three modes must be a part of everyone's schooling.

The cultivation of diversity is an imperative for the future that constitutes a serious challenge to prevailing educational practice. Certainly it is not an easy challenge to accept, but it is preferable to the alternatives–oppression on the one hand and anarchy on the other. Tomorrow's problems will simply not yield to yesterday's one-dimensional solutions. Conditions are not only changing, they are growing more complex; so must our responses.

learners

As your eyes transmit the squiggles on this page to your brain, where something very amazing happens to them, consider how important learning has been to your life, how important it still is comme c'est encore important наскільки б то було важніше DT 3·4//// AND WHAT THE CHALLANGE WILL BE IN THE FUTURE •ENTER•

characteristics

In the future, the process of education will be affected by a number of significant changes in the characteristics of learners.

Today's learner is already different in many ways from the learner of 20 years ago. Television, for example, has had a marked influence on his development. This new kind of person entering our colleges, institutes and universities possesses more information about the world than his parents have at middle age. It may be said that such knowledge acceleration is making young people too smart too soon. That might be true if the world were not changing. Young people are natives in a global village that is characterized by heightened change; older people still have immigrant attachments to earlier times.

Young learners of the future will also be biologically further advanced for their age than were most of their grandparents. Even today this is true. But because teen-agers are kept in a psycho-sociological cocoon, their biological maturity often goes unnoticed. However, we cannot predict that emotional maturity will necessarily arrive any earlier in the future.

An apparent, if unacknowledged, function of our schools has been to isolate youth from taking effective roles in society. Youth has been accorded a permanent place in the classroom, safe from responsibility, decision-making and any sense of real work–with no respectable appeal procedure. Youth has found recourse on its own terms: dropping out on the one hand, and power rebellions on the other. The message is clear: youth wants in, not out. Society must let youth in, just as schools must let society in. The legacy will be earlier emotional maturity.

An increasing proportion of future learners will be older. This aging will reflect more than the changing composition of the population, and the occupational and educational emancipation of women. Several other factors will have combined to focus attention on the mature student. Rapid advances in knowledge and technology will have changed social and employment practices. Soon recurrent education will be the norm rather than the exception as it becomes increasingly necessary for people to be "recycled" and to develop broader competencies that will survive obsolescence. Even though many of these learners will be in part-time studies, they will not tolerate second-class opportunities and resources.

There will be a high and positive climate of expectation among these older learners. They will appreciate the value of learning and see the teacher from a realistic viewpoint–as a fellow human being, no more, no less–but with special knowledge to share. It follows that the mature students of tomorrow will not be willing to accept without serious questioning prevailing attitudes toward scholarly respectability, which they will see as academic insolence. While not repudiating rationality, reverence for intellectual power alone will be scorned as perversion of their broader approach to learning and life.

Older learners of the future will seek more direct sensory experience than those of the past. Our youth now evidence a desire for more sensory experiences–sometimes through psychedelic drugs and sexual experiences, and sometimes just through more noise, more movement, more color. Many older people will be attracted and to some extent converted by emerging life-styles. Formal schooling will need, therefore, to seek new and better ways of communication with its clients. Adults and young people alike have begun assimilating knowledge in different ways; schooling must present knowledge in accordance with these ways. An obvious example is schooling's fascination with its clients' ears at a time when mass communications are visually oriented. Schools must reach the same audience that mass communications now hold in bondage.

Included among the older learners will be a group of special note: the leaders of our society who are normally so busy running things that their stock of learning becomes inadequate and inappropriate to their responsibilities. Institutions for higher and further education will have to be flexible enough in their programs and timetables to accommodate such persons. We must all come to recognize that it is essential for society's leaders to constantly replenish their learning stores.

Another group with special needs among the learners of tomorrow will be those victimized by poverty, although hopefully they will be fewer in number. We must make special allowances for persons from pockets of poverty in the inner-city, native communities and isolated rural areas. Because of the numerous deficiences that occur in this environment, the impoverished child is all too frequently understimulated and, consequently, is slow to develop. For the most part, such privation falls into five somewhat arbitrary categories:

> Physical privations reflecting the lack of food, clothing, medicine and the like;
>
> Sensory privations arising from an insufficiency of diverse stimulation;
>
> Language privations stemming from stunted vocabulary, simplified syntax, poor pronunciation, slowness of learning to speak–not necessarily in their own minority language, but rather in the majority language;
>
> Emotional privations flowing from broken families, lack of attention from parents and other insecurities connected with the home;
>
> Social and cultural privations originating with the ideas, attitudes and behavior patterns present in a poverty and/or minority culture that hinder the capacity of the child to break free.

When we stop comparing learners from poverty environments with their middle and upper class counterparts, a most remarkable fact emerges: with appropriate programs, well-implemented, it turns out that these persons learn at a rapid rate–in spite of malnutrition, economic insecurity, emotional-social problems and all the other interactive elements. That they can learn at such a rate is evidence not only of their courage, tenacity, cooperation and potential, but also of the high value they place on education.

The learners of the future will have much more political savvy than those of the past. They will be tough-minded but tender-hearted. They will not be pushed around or manipulated by government, teachers, parents, or even their own peers. They will know how to get things done. Students are already aware of power. They have seen pressure groups in action–from street power and black power in America, to red power, farmer power and business power in their own province. They have used power themselves. It is heady stuff–and they will want more.

Tomorrow's learners will have grown up without the reliance past generations have placed on religion, on family, on patriotism and on absolute values. Yet they will not be without moral principles. It is just that their attitude toward authority will be different. Their consciousness and perceptions will be different. Their ways of choosing and handling experience will be different. These differences already observable in the young serve as reasons for optimism about Alberta's future: for the dominant thrust of youth is toward sanity and integrity in human affairs reflecting their profound belief in man. They will demand that our institutions for schooling champion this belief.

special groups

The futures-forecasts in Section I emphasize that the solidarity of our society is diminishing. How much social fragmentation can we stand and still maintain our group identity? If the concept of unity in diversity is to be given concrete reality in the years ahead without sacrificing either our oneness or our severalness, then we shall have to do a better job of meeting the security, social, and self-actualization needs of all persons. At the same time, we must foster the ability to understand and tolerate human differences.

Obviously, application of the principles of personalization and equity are called for in meeting the needs of all persons. Also called for, however, are new program provisions for the special needs of certain groups, like the disadvantaged, the handicapped, young learners, and mature learners, which recognize their different characteristics. But in making these provisions let us remain aware of the lesson of the past decade: the inequities that visit minority groups cannot be altered by education alone.

Because our present educational delivery systems are not well developed, and because of the need for efficiency, group learning will continue to characterize schooling in the immediate future. A basic requisite for group learning is that there be a common set of cultural elements. In the past, we mistakenly thought learners brought these common elements with them. We took for granted common skills, attitudes, knowledge and a familiarity with the various artifacts of modern living. Only recently have we become aware that these common elements are often not present in teaching-learning situations. The programs we design for special groups, and those designed for all other learners, must be alike in at least one major respect. They must promote intergroup, interclass, and intercultural communication and understanding.

the disadvantaged

A learner may be disadvantaged for many reasons. Those most frequently identified are: socio-economic status, geography, sex, race and age. Often several of these factors interact to create a condition of multiple-disadvantage, which has a harsh effect upon progress, especially where schooling is undertaken in the institutional mode. The classification and discussion of learning among the disadvantaged that follows is somewhat arbitrary and does not encompass every kind of disadvantage. The discussion does, however, reflect the expressed concerns of Albertans.

native peoples

For the sake of Alberta's native peoples, and as a measure of the dignity of our province, it is time to stop the learned rhetoric and start the learning action in early, basic, higher and further education. Native education is so far in the past that it cannot wait on the future. For most of the native peoples of Alberta there is no today in education. The evidence is uncompromisingly clear: native learners are caught in a network of mutually reinforcing handicaps ranging from material poverty through racism, illness, geographical and social isolation, language and cultural barriers, defacto segregation, and simple hunger. And how does one study at home when home is a two-room structure sheltering 12 people? The evidence is clear that native peoples not only need but want better schooling.

They must have it. They must have it immediately. They must have better schooling on their terms with a major voice in the determination of objectives, active involvement in program development, and strengthening of their own cultural base. And they must have better schooling as families.

It is essential that formal schooling for native peoples becomes more relevant to their natural values, morals, mores, customs and historical perspectives. This relevance is necessary both for children and for adults making their initial forays into further education. Both require a strengthening of their own heritage as an antidote to the cultural shock that awaits them–or may have already brought them down. Improved course offerings in the natives' cultural heritage are needed at all stages of recurrent education. Particular emphasis should be on languages, history, religion, and social, political and recreational pursuits.

One obvious choice for such program options in early and basic education is the social studies. Work is already underway in the Northland School Division on the development of comparative cultural units that relate the problems of native minorities in Alberta to similar problems that occur in other cultures. Other schools in southern Alberta have prepared units of study dealing with Blackfoot history and culture. Such programs should be extended with special leadership from the native peoples themselves, and from the Athabasca Regional Office of the Department of Education. And we should not forget that non-native students also can learn a great deal from such programs.

If we hope to buttress native pride and adaptability, we must begin when the critical aspects of personality formation are underway–in early education–and we must remain fixed on this objective throughout recurrent education. Interracial tolerance, understanding and mutual respect cannot come about unless we help learners from the very beginning to feel secure within themselves and toward their rightful place in society. If we succeed in this, the energy now given to distrust and hostility may be rechanneled into the challenge of integration. If it is not, the native learner is likely to fall into that category of behavioral and social disorder recognized in Figure 13.

A society in which the discharge of hostility and aggression is present–racial and otherwise–is a bad society for all of its citizens. Our institutions for schooling should help the learner towards gratifying interpersonal relationships. They should provide him with experiences that teach him successful and acceptable ways to reduce his tensions. If they do he will gradually come to know that hostility and other emotions can indeed be managed.

The native learner knows that economic success and the things it brings are valued in our society. He knows because he wants these things himself. But let us be honest with him. We can show him that other minorities have achieved these things only after working harder. While this may be unfair, it is nevertheless true and he must face that fact. He is the only one who can break that unfair pattern; if he does, then those who follow will find it easier. If he does not, then our society will be the poorer for his loss.

Figure 13
A Classification of Exceptional Children

Primary Learning Disorders

Children with primary learning disorders evidence an inability to learn in the usual or normal manner despite basic emotional, motor, sensory and intellectual integrity. Their learning disability is often associated with impairments in maturation and social adjustment.

Behavioral and Social Disorders

Children with behavioral and social disorders exhibit behavior such as inconsistent response to life situations; significant difficulty in school achievement, and social relationships; a low sense of self-esteem; and they may also show problems of adjustment and communication that can be traced to ethnic and cultural differences.

Special Intellectual and Creative Abilities

Children with special intellectual and creative abilities are those whose performance in a potentially valuable area of human endeavor is consistently superior.

Sensory, Speech and Physical Disorders

Children with sensory disorders have impairments such as hearing deficiency; communication disorders related to hearing loss; and various types and degrees of visual impairment.

Children with speech disorders display deviations in speech that draw attention to the manner of speech or interfere with the ability to comprehend or formulate speech, and to express their intentions effectively.

Children with physical disorders display impairments such as: orthopedic disabilities, health problems, central nervous system disorders, congenital mental retardation, brain damage.

Multiple Disorders

Children with multiple disorders may include those with combinations of disabilities such as deaf-blind, deaf-retarded, blind-emotionally disturbed.

the poor

Educators have finally become aware that the poor are really different as learners. Some of these differences have already been noted. Children of the poor have unique characteristics–learning strengths as well as weaknesses–that require unique responses. Hopefully, the quality of this response will improve in the future. Presently it is hindered because many of the schools serving the poor are themselves poor, with substandard facilities and less qualified teachers. There is great opportunity to launch a preventive attack in Alberta's cities before the crippling problems of the inner-city slum reach unmanageable proportions, as they have in many American cities.

One good place to introduce compensatory programs for the poor is with early education. If impoverished children are going to obtain long term benefit from this experience it may be necessary, for example, to start teaching them to read before their middle class contemporaries, who learn more easily. Children of the poor must begin earlier and receive concerted instruction if they are to catch up.

Structured programs with intensive attention to reading and language development will likely meet firm opposition from those who believe–contrary to some of the preliminary evidence–that the impoverished child should have an unstructured timetable. These people reason that such children should be protected from the pressures of formal learning through an emphasis on play. Their warnings are well taken. Consequently, while a Mode I structured approach is recommended for these learners, it should be accompanied by long-term experimental studies which investigate any possible emotional strain.

exceptional children

The normal person singled out by statistics does not exist. In this sense, we are all exceptional. But some of us are more exceptional than others. For purposes of convenience, learning psychology recognizes a wide range of normalcy which takes in about 85 percent of the population. About 10 percent of the population are considered to have serious learning disorders and 5 percent to have consistently superior learning ability. Learners in each of these two extreme categories are classified as exceptional. Figure 13 indicates some of the characteristics of exceptional children.

Certainly those exceptional learners who demonstrate consistent superiority need special opportunities just as do those with learning disorders. Some of the strategies associated with Mode III will be of special benefit to the gifted.

Generally superior learners fend rather well for themselves which is perhaps why few submissions were made to the Commission on their behalf. Since this report strongly advocates the removal of learning restraints, the freeing of knowledge and the creation of a more meaningful teacher-learner alliance, then at least some of the needs of those with special intellectual and creative abilities have been considered. The remainder of this discussion of exceptional children will, therefore, concentrate on those with disorders that inhibit learning–who have been the subject of many submissions.

the handicapped

Programs should continue to be geared to the concept of normality only on the clear understanding that variation will be introduced for learners who deviate from this norm, both above and below it. The norm approach becomes very strained at both extremes of intellectual development, and can create contradictions in any one-dimensional teaching philosophy. Such may well be the case in our present programming for the seriously handicapped.

A part of this lapse in program logic may result from the saviour-syndrome, which can be contagious among educators. This syndrome makes it difficult to accept failure with anyone. It comes, philosophically, from the general agreement that we can deal educationally with any child. But we sometimes forget that there are relative degrees of possible educational attainment. This forgetfulness can create false hopes in parents of handicapped children, resulting in bitter disillusionment. It can also create high expectations in certain students who aspire to the magic normality, and instead reap frustration and despair.

Albertans, in planning future programs for those with serious sensory, speech and physical handicaps or disorders, must be clear as to the goals being sought. The old ethic that only by being productive can we justify our existence continues to strongly influence our approach to schooling for the handicapped. It has resulted, for example, in programs that set out to prove that the retarded person can be productive. The trainable mentally retarded have a justifiable reputation as repetitive workers at low skill levels in a sheltered environment as a result of these programs. Will they become one of the few employable classes of the future because they will be able to tolerate the extremely routine production jobs that automation promises us?

Alternatively, the mentally retarded and others with severe handicaps might become the first truly leisure class in our society. Acceptance of this view would downgrade the goal of career proficiency and upgrade that of creative capacity. Such a shift would also discourage the further development of programs that train handicapped persons to compete against sophisticated machines in a demeaning contest they can never win and will rarely find satisfying. Instead, the new emphasis would be on programs that nurture broad leisure and recreational interests and skills, a new kind of self-fulfillment, and a different version of personal autonomy.

Many handicapped persons tend to have the further disadvantage of poor physical and eye-hand coordination, limited muscular development, and weight problems. This is another reason for stressing physical education and related recreation throughout their life spans.

the learning disabled

Unquestionably, the future will demand the adjustment of methods to meet the particular needs of persons with primary learning, behavioral and social disorders as described in Figure 13. This report has already fixed tomorrow's responsibility for meeting them in the public sector. *One Million Children* and *Mental Health in Alberta* go further in documenting today's needs.

While students with learning disabilities will require attention in further education, and to some extent in higher education –although few ever get that far–the emphases must be on prevention and remediation in early and basic education. A learning disability is a specific deficiency that prevents proper perception, reception or expression of some essential learning process–such as speaking, reading, writing, number concepts or spatial orientation. It is a deficiency that can be balanced by special instructional techniques. Once it is corrected, the whole world of skills and knowledge dependent on that particular process are opened up to the learner. Obviously it is a deficiency that should be remedied as early as possible.

The first step must be effective diagnosis of the learning disability. This is not simple since the disability may be mild, severe, obvious, hidden, simple, complicated–alone, or in combination. Nor does the application of a specific label to the disability help. In fact, a label is dangerous to both the child and those who will work with him. Labels tend to create limitations where there may be none, expectations where none are justified, treatments where none are called for. Labelling a person hyperactive does not tell us any more about him than labelling a person ambitious. There are as many degrees of hyperactivity as there are of ambition.

This does not mean that specific diagnosis is not possible, just that a label is merely a starting point.

It is thought that children with learning disabilities have some irregularity in the sequence of their educational development. In all other ways they are essentially normal, intelligent children–but they do not advance academically. Sometimes they develop behavioral and social disorders out of frustration. Generally, they do not belong in opportunity classes or special schools and can usually attend regular classes as long as the classroom teacher is working in concert with a learning therapist. For these children, there is a serious gap in our educational system.

Certainly most teachers want to help such children, but few teachers have even elementary training in this area and there is an acute shortage of qualified learning therapists. Learning therapists are able to diagnose the educational needs of children with specific learning disabilities and design prescriptive programs to be followed in the classroom and at home. Clearly there must be more such therapists on the staffs of our schools–for many claim that the number of children with specific learning disabilities is grossly underestimated.

The problem of the student with a specific learning disability, and its effect on those near to him, is both critical and of considerable magnitude. It will require a considerable response. The response is now past due; we must move before these students are past helping. The future needs their contribution.

young learners

As previously noted, programs for early education have traditionally emphasized learning through play. The play school offers a creative atmosphere in which the child can develop his individuality, and stresses social, physical and emotional development. This freer type of schooling, with its concern for more than just intellectual power, can be an admirable model for changes proposed at other levels of recurrent education, but should not be followed slavishly at any level.

Only in a few countries do early education activities include schooling in reading and arithmetic. The United Kingdom (Infants' Schools) and France (Ecoles Maternelles) are, therefore, notable exceptions. In other countries, the prevailing idea is that early education should include training in visual and auditory perception, and some manipulative experience with concrete learning objects. Such a background is thought to create favorable conditions for later instruction, particularly in the symbols of language and arithmetic. Consequently, there are important differences between a nursery school of, say, the French type and a typical kindergarten in the Scandinavian countries. The former is like the first course of a carefully planned, sit-down dinner; the latter, with its emphasis on play situations, is more like a tray of hors d'oeuvre–something to nibble at while dinner is being prepared.

While there is a general agreement that early education should be designed as an interplay between maturity and learning, there are still important differences concerning the whole notion of readiness. On balance, we should pay more attention to the behavioral scientists' new insights into child growth and development. If we do not there is danger that the maturity principle, with its obsession about spontaneous and automatic development, will be interpreted far too dogmatically.

New knowledge in child development tells us that we should place a great deal of stress on oral language. We now know that, given the right setting, a young child will use oral language as a means of freely expressing his inner self. This is a critically important requisite in his growth to adulthood, and we must provide for it as part of the identification function. More attention should also be given to designing structured experiences that develop awareness of the concepts of number, shape and size, and of the interrelationship between parts and the whole.

Individual differences among young learners will, however, continue to justify a high degree of variation and flexibility in content. Indeed, purposeful variation is now recognized as the success ingredient of headstart programs for young learners in the United States. Each child must have the opportunity to develop his individual capacity for knowledge and those skills, attitudes and values which are related to his life needs, and the needs of the people around him.

mature learners

We have little hard information from the present as a guide for determining the specific content of future programs for mature learners. Youth has not lacked researchers or spokesmen to chart their beliefs, pastimes and purchasing power. The old have been the subject of some study and we have information about their needs in health, housing and recreation. But we have little to go on concerning men and women from middle life onward. What are their needs as the intensive phase of family rearing passes? How should they prepare for coming retirement? As anyone over 40 knows, when it comes to choosing clothing, music, movies or new careers, they are the ones who have been left by the wayside.

We can predict that the mature portion of our population will be facing life with substantially less schooling than the young; many are already, but the gulf will widen. We know too that the shock of change which accompanies retirement will, in the future, be heightened for those who have lived by the work-ethic. Unless we provide for it, these people will enjoy even less physical activity in the future than they do at present – technology will see to that. It is the mature who are on the front line of the future shock wave.

The educational strategy which seems most promising is that of the second-look program. Programs of this sort have been offered for several years by the extension departments of Alberta universities and by community organizations like the YWCA. They have had considerable appeal to women looking for a new purpose to bring to their mature years. Many men, locked into the routine of their jobs, tend to be unaware that the dynamic of this program has equal application to them. Before a problem can be dealt with, people must become aware that there is a problem. Many mature people tend to be vaguely discontented, vaguely lacking in purpose, vaguely dislocated by social circumstances. What they need first is clarity.

Development of a clearer personal perspective is a necessary step before learning experiences can be designed to meet the needs of the mature learner in the future. It is, therefore, suggested that further education invite its clients – indeed, urge them – to take a second look in preparation for a second and continuing learning experience.

implications

The comments concerning characteristics of future learners are general – they apply to all learners. The comments concerning special groups of learners are specific – they are additional to the general characteristics. These comments concerning implications are interpretive – they relate what we know, and what we might assume, to what seems likely to happen.

There will be strong thrusts in the decades ahead aimed at submerging personal identity. Presently, advertising, the mass media and the business dynamic of profitability are strong forces for conformity. In the immediate future they are likely to be more so. Much greater employment of cybernetics and automation will multiply the pressures ranged against the integrity of the individual.

To be and to remain individuals, we must want to be individuals. Our institutions for learning must support the conception of man as curious, restless, concerned about more than his physical appetites, capable of enormous effort–educational and intellectual–for nothing more than the real pleasure of proving to himself and his immediate society that he can do it. As individuals we must recognize that the conglomerate society is, in fact, us–no more and no less than a lot of other individuals like and unlike us. If we are to have a person-centred society, we must grant attention to the private agenda of all individuals.

Personalization will not rule out competition in learning. But it will have to be the kind of competition that is largely of the learner's own choosing in its goals, its intervals, its intensities. It will permit competition with the self. It will encourage stimulation through peer evaluation instead of external evaluation. It will call for a challenge of ideas rather than of personalities. And it will allow for selective competition in activities in which the learner is prepared to expose his own self, his own values, his own questioning of reality.

We will need to provide both creative climates and critical climates for tomorrow's learners. A key part of the integrated personality is its ability to maintain several perspectives. One suggestion is that learners should be taught two kinds of thinking–often described as linear thinking and lateral thinking. Linear thinking is logical and analytical–best suited to criticism and the scientific method. Lateral thinking is intuitive and unrestricted and best suited to creative activity. Few people can use both kinds simultaneously. Purposeful shifts from one to the other give the learner either an inner or an outer perspective. Certainly that sort of capability would assist future mental health.

There must be a time and place for learners to exercise freedom and spontaneity as well as discipline and self-control. Both can be accomplished best in non-threatening environments. Spontaneity cannot be forced and true discipline must be an act of individual will, not of submission to authority. It is difficult to think of two more useful and diverse qualities for life in a person-centred society than imagination and self-discipline–both given over to self-actualization.

To accomplish self-actualization we must redefine educational opportunity in terms of those conditions that permit each individual to move on to the next state of development with ease. One of these conditions ought to be that the individual shares in selecting learning experiences suitable for him in reconnoitering his future. Accepting this as a guideline for process would be a major step toward actually implementing the ideal of participatory planning.

A way of helping to ensure that the integrity and self-governing ability of each learner is respected, is to conduct the learning transaction in harmony with the provisions of the Alberta Bill of Rights, just introduced in the Legislature. The guarantee of freedom from learning discrimination is a very important one, both legally and morally.

Basically, however, self-direction in learning begins when the individual starts asking questions such as these:

Who am I? What kind of person do I want to be?

What are my priorities in life?

What are my strengths? My weaknesses? How may I manage these in achieving my personal goals?

And how do I go about achieving my goals? What are the opportunities and obstacles I can expect?

How do I relate to others, and interrelate with them?

Where is my place within the larger society?

More important, perhaps, our institutions for schooling must encourage the learner to ask these questions–and help him find his own answers. A successful search for answers to questions such as these will occur only when learners join more fully in the life of our society, and at an earlier age. This involvement may take as many forms as there are people. But whatever the particulars of individual involvement, it is clear that young people will want opportunities to make direct contributions to society. Their demands have begun to be heard in the schools, and the satisfaction of their demands must also begin in the schools.

objectives

When setting objectives we have usually ignored the opinions of the key figure in the learning process–the learner himself. Fortunately, there are signs that the isolation of the learner from program decisions is ending. Alberta's oldest university has now given students parity representation on its General Faculties Council, the final arbiter of program changes in the institution. The academic plan for Athabasca University contains a proposal for widespread participation of staff and students in program evaluation. The University of Lethbridge, since its inception, has been a provincial and national leader in involving its learners in program decisions.

But change is also needed at other levels of education. Section III of this report proposes that at the early education level, decision-making that pertains to program operations should be left with councils elected to represent the parents of the youngsters involved. Other parts of this section suggest teacher-learner alliances during, and following, the establishment of objectives-with copies of these objectives being sent home to the parents of juveniles for comment at the beginning of the term. Section III also urges that school councils be established in each school of the province, with powers to make important policy decisions regarding program. It calls for parents, citizens-at-large, teachers, and students at the senior level to participate in such decisions.

In rural areas, where colleges, large senior schools and the Alberta Academy will generally act as centres for further education, it is expected that the regional offices of the two education departments can help to identify the program needs of part-time students, and to bring them to the attention of both local and provincial authorities. The summer session students' union, often found in higher education institutions, is a prototype of the kind of vehicle that could be rejuvenated to facilitate mature learner participation in objective-setting where the student body is intermittently full-time for short periods.

pupil power

A part of schooling's present malaise stems from historical antecedents and influences in which learners are seen as being unappreciative, undisciplined pupils in need of forcible socialization. Subject matter is handed down autocratically, a commodity to be mastered for its own sake rather than as an instrument to be used by the learner for personal development. In these circumstances, educational processing then replaces the individual process of education.

Two basic premises underlie proposals to involve the learner in a joint endeavor for the determination of objectives and the shaping of programs. One is that the learner must be trusted as a self-starting and self-motivated individual. The second is equally basic — respect for the learner as a person. We can ground these premises on more than simple faith. Trust and individual respect have already been identified as among the strongest factors in learner motivation. There is also support for the contention that learners who participate in program decisions develop a higher sense of destiny control, and perform better than average.

Age is a vital consideration in permitting children to become involved in determining their learning objectives. The young must be encouraged to decide for themselves, with all possible help from their teachers, parents and peers. Senior students can be extended far greater freedom in determining their own programs, but as representatives on councils that determine large group objectives they cannot be accorded full control. It is difficult even for the highly committed educator to possess the necessary knowledge on which to base such group decisions. It is here where participatory planning provides a balance of youth, experience and research data.

Time spent on such joint planning-and if it is done properly it will take time-will be well spent, and will repay its investment with improved learning. It will help to maintain a close liaison between learners and teachers. It will often result in some excellent suggestions that might otherwise have been lost. Not to involve learners in program planning is to suggest that they are bond servants, indentured to an infallible master. It is very hard to find good bond servants these days.

manpower

Does higher education consist of institutions in production, or people in process?

For the first time in history, Canada faces the prospect of an abundant supply of highly trained people. This is not to say, however, that manpower needs for higher educated workers will be met in all occupations. Shortages will persist in many occupational specialities and geographic areas unless training is shifted to shortage fields.

This state of affairs reflects the fact that we generally afford our youth the opportunity to choose how and where they pursue advanced learning. In this sense, we do not have a planned economy. Our supply of highly qualified workers is essentially the sum of decisions made by individuals to suit their own interests, opportunities and capabilities.

The imbalances that are foreseen for the years ahead point to the need for more effective planning of schooling to meet occupational needs, and some means of attracting people to certain occupations. Governments and educational institutions are largely limited to influencing the choices of individuals by such actions as selective financial assistance, choice of location for industrial expansion, revisions of tax laws, and increasing salaries in selected occupations.

Before proceeding any further, a query is in order. How can this report reconcile what was said about pupil power with what is now being suggested about manpower? How can individual destiny control be extolled on the one hand and manipulation of that destiny be suggested on the other? Three answers are offered. First, there is no suggestion that individual choice be subverted. The incentives offered by a variety of occupations will always be a key element of choice, regardless of where these incentives come from. Second, this discussion is about the world of work and an individual's destiny will consist of much more than the world of work–especially in the future. Third, it is the responsibility of our government and our institutions for schooling to identify and teach the skills that are relevant to society; it is the individual's responsibility to choose and to learn. But since it is also the government's responsibility to assist those who choose wrongly, or learn poorly, there is a very strong case for guidance in the first place.

Over the long term, the arrangement has worked quite well whereby higher schooling, in consultation with industry, identifies and offers; learners choose; and government and industry encourage. We have increasing evidence that schools, colleges, institutes, universities and AVTCs are responding to changing manpower needs, both in their course offerings and in their identification of retraining and upgrading programs. The tendency, indeed, is for the market to clear itself in the long run. This process offers a rational confidence in the manpower future for highly trained personnel during the remainder of the '70's.

But the existence of short term imbalances and the need for crash programs remains a serious concern. That concern is not only with the problems of unemployment and readjustment, which are severe, but also with the waste represented by the loss of expensively gained ability, knowledge and experience. The calamity of our current surplus of Ph.D's is not so much unemployment as rising underemployment. Thus, added to the social costs are the human costs of unfulfilled expectations and erosion of skills.

While considerable effort is being made to relate the Canada Manpower Centre to institutions of higher education, not enough effort has been made to integrate placement with the secondary schools of the province. The future demands joint efforts that will serve the individual while he is in the training process. These might be modelled after the Youth Employment Service in Britain. Alternatively, part-time job placement might be an activity to which the students themselves could devote their energies and talents as yet another version of life experiences described later beginning on page 177.

A serious problem that lies ahead will be the tendency for entry requirements for many occupations to rise, even though the jobs themselves may not require more formal schooling. Overschooling is already being demanded for entry into many jobs and professions. Such practices are a highly expensive and highly discriminatory sorting and screening measure. Not only do they limit the number of options for those persons with less than a degree, but they also present the danger of massive underutilization of those with extensive schooling. Underemployment of higher educated workers is already causing much campus tension; that tension could easily overflow into a societal confrontation.

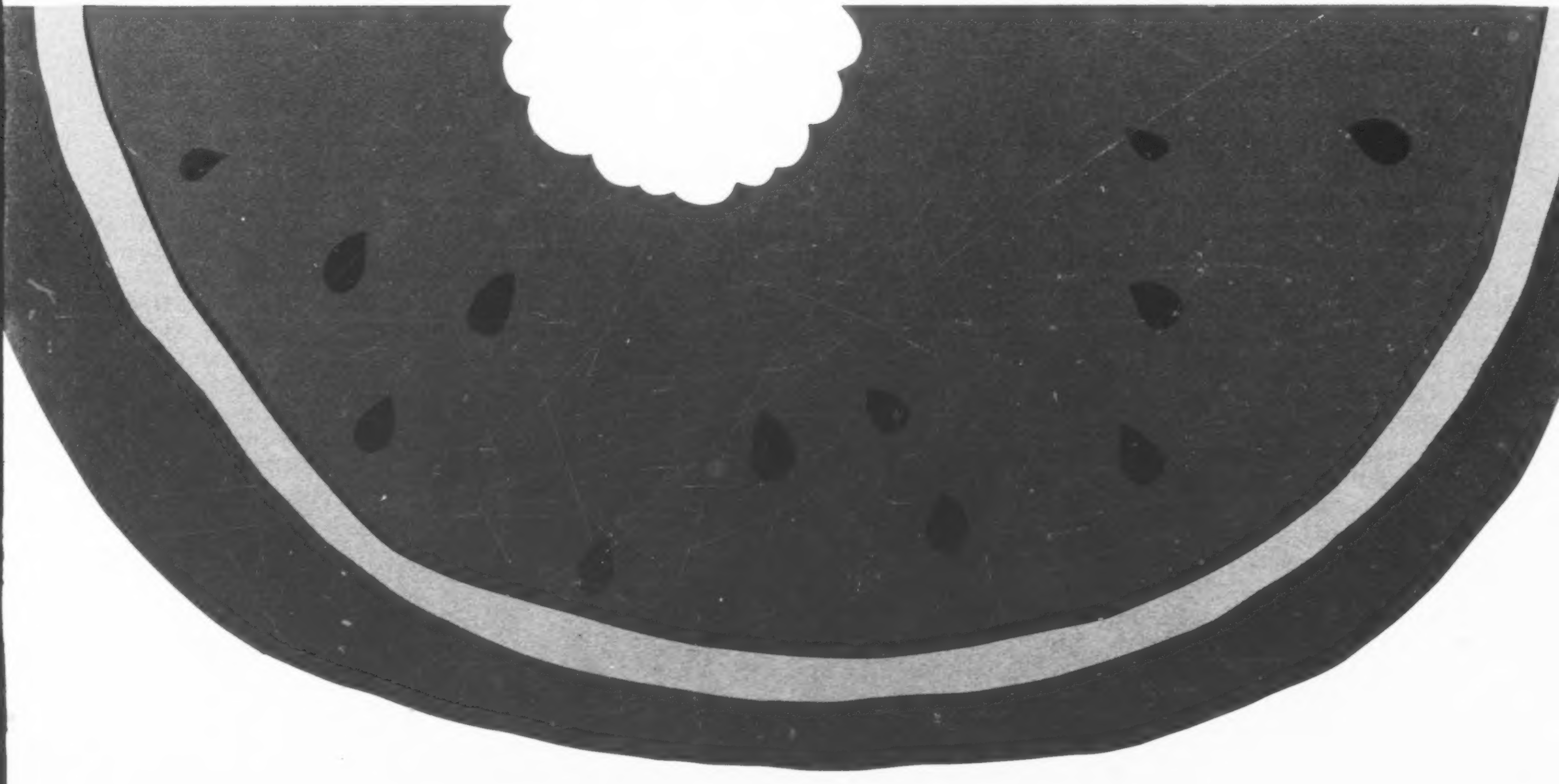
The manpower influences in higher education will acquire a new significance in the context of recurrent education advocated by this report. Recurrent education implies a system that alternates periods of formal schooling and periods of work throughout the lifetime of the individual. Such a system would help to solve some of the dilemmas for which, so far, no satisfactory answers have been found: the quest for compatibility between humanistic and technological content; appropriate linkages between basic and higher education; and a more rational coordination between colleges, institutes and universities.

However, it must be remembered that recurrent education is a concept requiring far-reaching and radical transformations, both in the whole of post-compulsory schooling and in other sectors of society, and that its implementation is a very long-term objective. Program reforms cannot be postponed until this objective is reached. The essential practical problem, therefore, is to identify and apply measures that represent a potential step toward recurrent education and the reconciliation of manpower with pupil power, and to avoid changes that block the way toward such developments.

content

The content of education should be like the content of a watermelon–crisp, succulent and plentiful, with an easy but challenging difference between the seeds and the watery pulp. Gulp the pulp if you must; discard the rind; but consider the seeds carefully–they are the meaning of the melon.

Some content is more important than other content. The pulp of the melon is very tasty and factual, but it is also perishable and without much food value. The seeds, on the other hand, are worth thinking about. They pose a problem. The first stage of the problem is relatively simple: the seeds



must be picked out. The second stage is to decide which will be discarded and which will be planted. Seeds are like concepts–we can cultivate only so many and they should be well-chosen.

Problem-solving and concept selection are given considerable emphasis in this report as a content imperative for schooling. To these imperatives should be added the importance of problem posing. Many of the problems of life are not recognized as problems at all. Recognizing that a problem exists, and knowing what questions to pose, is at least as important a process as the provision of answers.

Today's solutions for yesterday's problems have a very short life expectancy. Not only will the dimensions of the original problem change rapidly but the very data on which the decision was made will grow suspect. The best evidence today suggests that many of yesterday's facts will be tomorrow's fiction.

So long as each day overturns another verity, institutions for schooling ill serve the learner if they are entirely fact–or solution-oriented. Learning how one arrives at solutions is increasingly recognized to be indispensable. Periodically deprived of his working truths, the modern human being requires a mastery of the processes of clear thought, of how to go about making decisions when tradition is a poor guide. A mind that actively searches for and discerns interconnections and relationships will always be in demand.

At the same time, schooling for the future must pay as much attention to feelings as it has in the past to facts. Interpersonal relationships will be crucial. And because the cracks of interpersonal failure appear during child development it is important for early and basic education, in particular, to deal with the problem in its formative stages–the only time that it can be dealt with on a preventative basis. If educators were ever justified in defining their task as solely that of training the minds of their students, that day is gone.

The great importance of the quality and relevance of instructional content is not well understood by the public. Man's development and survival in future society will depend in large part upon his being able to distinguish fact from fancy, myth from reality, superstition from scientific generalization, and upon his ability to employ intelligent and systematic procedures in solving new problems. No subject or activity is more relevant, *per se*, than another. It is only the learner who can establish the relevance of what he studies. However, it is up to educators to establish the authenticity of instructional content. To do this, they must be in contact with current and authentic scholarship.

Some of our new and promising programs designed to foster inquiry learning on an interdisciplinary basis are quickl being eroded because teachers subvert the programs back into one-subject-at-a-time formats, replete with traditional answers. The fact that the disciplines and traditional subject matter are man-made is overlooked, and instructional personnel in our schools behave as if learners can approach life by combining biology, phonics, arithmetic and a unit in communications technology. Basic education, some critics maintain, is closed to all alternatives save preparation for entrance into higher education for the able, and temporary custody for those who are less able.

What this all adds up to is the need for a fundamental shift in viewpoint–from conceiving of schooling as shaping the individual's behavior to fit predetermined roles, to the view that recurrent education seeks to help the learner acquire the knowledge, skills, attitudes and interests that will enable him to constantly influence his environment to achieve his purposes. Too often, we talk of helping each learner find his niche without realizing that niches do not go anywhere. In a person-centred society, the real criterion of educational effectiveness ought to be the extent to which each additional learning experience increases the range of life-choices available to each person so that he or she is able to open the doors of opportunity and development.

An elaboration follows of some general concepts about content appropriate to this shift in viewpoint. Just as the sheer bulk of knowledge makes program coverage not only difficult but impossible, so too is this elaboration limited. Much of the content associated with the learning of reading, science, medicine and computer technology, for example, is already well-documented and hence, requires no elaboration here. Omission from this section certainly does not mean that various knowledge, skills and attitudes are unimportant or undesirable. However, the material that is included has caught the attention of Albertans who have speculated with the Commission about specific program content that might anticipate some of the requirements of our emerging future.

problem solving

Achievement of intellectual power depends upon the development of cognitive skills–problem formulation, information processing, idea generation and idea evaluation.

Yet a problem is rarely handled so tidily as these ordered stages of evolution to solution might suggest. Stages of the process may overlap and intertwine. Idea generation, for instance, often will originate with the problem. An answer may suggest itself spontaneously, intuitively, to be ratified after-the-fact. Or it may be during information processing that a problem is first exposed.

Whether or not an individual is successful in solving a problem depends upon his ability to effectively apply and coordinate these skills. He must be able to realize when he is prepared to move to the next step in the thinking process, and the step following. He must be able to recognize when his course of logic has failed, and a fresh approach is necessary. He must learn to master concentrated involvement as well as a detached perspective.

The problem-solving process is not a prescribed sequence of steps like the pre-scheduled program of a computer. People are not computers, and while machines can be of tremendous convenience in solving problems of a kind, they are necessarily limited. A computer applying data is no more concerned in reality with a problem than a truck carrying wheat is concerned with hungry people. Machines process whatever they are intended to process, according to their requirements and capabilities. Human problems must be solved by humans–the humans concerned.

Certainly the process of solving problems is highly complicated. So is living–if you think about it. Learners should think about it and the problems in living which they identify should be used as learning exercises. These problems should be real rather than counterfeit, whole rather than fragmented, and they should stem from major areas of human concern. Problems of this fashion present double dividends—learning about process while learning about life.

It is a tragic blunder, however, for educators to impose adult problems on children before they manifest a spontaneous interest in them. Development of one's personality is an exceedingly complicated and difficult task, sufficiently so that it might well occupy the bulk of the school experience. There is little point in having a person complete basic education with a knowledge of mathematical set theory, if he is emotionally unstable. Until the age of majority–and even after–the young are profoundly involved in one chief pursuit: learning appropriate family and peer-group roles. This pursuit of personal identity shapes their perception of problems. For example, most children are infinitely more concerned about what their peers think of them than about the depleting oil reserves, the problem of Canadian identity and regional disparity.

Overall development of cognitive skills should result in integrated intellectual competence. Each learner ought to be aiming at the ability to manage all the diverse and disparate requirements in the problem-solving process. To attack a problem using only some of the component skills is about as harmoniously effective as trying to play a violin with two strings and one hand. To be effective, specific cognitive skills must be coordinated toward a solution. Learning each specific skill is no more important than learning how that skill applies to the others. Only when this integrated approach is followed is the individual properly equipped for decision-making. And only when enough people are equipped for decision-making can there be a person-centred society.

Having understood and sharpened his own thought processes, man is ready to take full advantage of the computer. The computer can be an effective extension of thinking man. In addition to its capability as a very efficient number-cruncher, the computer can be man's springboard toward the more useful employment of intuitive thought. Using simulation techniques such as those discussed on page 260, man can test the effects of his intuitive thrusts. He can predict, with considerable accuracy, where he will land if he makes the intuitive leap. Wrong decisions can be avoided and right decisions verified without the high costs in time, materials and human resources generally associated with feasibility studies and experimental projects.

The Chinese word for crisis is made up of two characters. One means danger and the other means opportunity. The same approach might be valuable in the teaching of problem-solving.

communication

The integrity of the learner in tomorrow's school will never be fulfilled if he learns only how to solve problems as an individual. He must be prepared to approach learning in cooperation with others. Ability to communicate will become fundamental to this process, as it is to the attainment of the larger goal of personal autonomy.

Effectiveness in communicating ideas and feelings must continue to be sought at every level of our educational system. It is becoming widely accepted that communication should be viewed in a broader context than that of expression through words, or through the various arts. Effective communication requires proficiency in the skills of listening, speaking, reading, viewing and writing. Since rhetoric, as well as gestures, postures, colors and sounds, can affect the transmission of ideas and feelings, it is important that schooling aid the learner in understanding the subtleties of communication. He must also understand attempts to manipulate him.

One group of young Albertans, frustrated by traditional schooling's ignorance of mass communications, have proposed the establishment of an educational and research unit to study mass media and communications at the University of Calgary. Financed by an Opportunities for Youth grant, they have received wide industry support for the proposal and are doing some very effective lobbying. It is both interesting and instructive that this proposal comes from students and not from academia.

The mass media continues to grow as an important influence in our lives. Interpretation of its purpose, authenticity and emotional impact should become an equally important part of our schooling. Unless learners are taught to interpret significant events for themselves, they will be subject to whatever concerns the media may fashion for them. This is the difference between forming one's own opinion or being formed by someone else's opinion. Learners must be led to understand the ingredients of image-making. Some teachers respond to this challenge by advertising that, personally, they do not watch television, listen to radio or read popular print. That answer is not only unrealistic and professionally derelict, it is also pathetic.

Advertising is itself a system for schooling. It is busy teaching the attitudes and skills of mass-consumption, implying that real happiness comes from mastering the style of herd acquisitiveness. The media homogenize our culture, submerging regional, class and other differences into common patterns of speech, dress and behavior. Our occupational lives are increasingly worked out within the organizational confines of some large and impersonal corporation. All of these pressures are products of a bureaucratizing, mass society–and they are pervasive. Many social institutions combine to make us cooperative and easily collectivized–including the little mass societies found in our institutions for schooling.

Society encourages this conformity, not as a conspiracy against individual differences, but because conformity is useful to the principle of unity. Some of these forces are desirable ones: not mindless conformity, but the capacity for cooperation; not standardized mentality, but the tolerance for diverse views. Yet man must know how to stand alone as well as how to stand together. While a smoothly functioning society is desirable, so are individuals with courage to stand against the tide of popular enthusiasm. We need men and women who will call attention to the errors and myopia of the herd.

It is becoming widely accepted that failure to communicate successfully stems from the mismanagement of one's emotions and is often the cause of conflicts, both in personal and community relationships. It is imperative, therefore, that tomorrow's content be rooted in real psychological problems. Learners must face their conflicts rather than evade them. They must develop skill in diagnosing their own social dilemmas. Once one is able to grasp the nature of his conflicts, he gradually learns to analyze alternative behaviors and to anticipate the consequences of each. Eventually, he is able to select behavior patterns which resolve his internal conflicts and dissipate his anxieties. In this way, he can build a reciprocal relationship with a group or an entire society.

One of the more promising approaches to interpersonal communication among adults is called synetics. It is a discussion model aimed at clarity of communications, encouragement of creative ideas, and competent participation in group discussion. It is not sensitivity training, nor is it brainstorming; it shares similarities with both but espouses the excesses of neither. It stresses non-interfering acceptance and encouragement of the contributions of others, and points out that those who try to sit in judgment destroy the communication base.

Healthy interpersonal relationships cannot be learned from books. Nor can they be developed by watching television programs or listening to lectures. These activities may provide bits of insight into human relations but finally one learns only by practice. Communication is the influence that one person has upon another, and how he is influenced in return. It is practiced between people–and it is learned in the crucible of human experience.

valuing

Tomorrow, as today, man will often be caught between the need for individual freedom and the deceptive security of group life. In the absence of understanding and agreement about what is significant as forecast in Section I, he is apt to remain a helpless victim to the lure of the market place and to counterfeit values. His ability to function autonomously with ethical discretion will either be stillborn or withered from disuse.

Man's future relationship to his social and physical environment can be improved only when his behavior is guided by values that are clear, consistent and defensible in terms of the life goals of each individual as a member of society. A concentrated concern for what could and ought to be gives rise to the major distinguishing characteristic of schooling in the human sciences, humanities and the social studies in the last third of the 20th century–value-orientation. Value-orientation is the examination of the feelings and ideas that individuals and society hold in regard to what is right, good and important. It is premised on the conviction that persons exercise freedom according to the values that they hold; values and related feelings and attitudes being the prime determinants of actions.

The content of the various phases of recurrent education should, therefore, include experiences which allow learners to clarify their personal values and to understand the values of others. This valuing process, as described in the new Alberta Social Studies program for basic education, involves three basic skills: *choosing*–identifying all known alternatives, considering all known consequences of each alternative, choosing freely from among alternatives; *prizing*–being happy with the choice, affirming the choice willingly and in public if necessary; *acting*–acting upon the choice, repeating the action consistently in some pattern of life. In all likelihood this valuing process will occur within the framework of traditional and emerging values noted earlier in Figure 2.

There is room for much debate about the best way to develop values and self-direction. Nevertheless, there appears to be general agreement that teachers from nursery to graduate school are inclined to tell the learner too much. They are prone not only to an excess of lecturing, but to exhortation, platitudinous directive, and synthetic interpretations of proper behavior. The inquiry method of learning is often held out as an appropriate model for students who will be making value choices. We must ensure, however, that inquiry does not turn into little more than the well-worn routine of information seeking and copying from books, followed by oral reports, and a prompt forgetting. To offset this, our formal programs should be saturated with activities such as those described in the life experience sub-section that follows. By allowing the learner to experience life first-hand, we provide him with the most relevant possible source of thinking material. If we then encourage him to interpret his experiences, gradually developing a sense of what is important and unimportant, he can learn to decide for himself which values to uphold.

Introducing the learner to such experiences requires not so much a teacher as a leader, a person who is himself sufficiently integrated not to need to take refuge in authoritarian behavior–a person who is able to tolerate with patience, to accept, to encourage. If the learner experiences and considers authentic activities and situations, and is helped to analyze them and extract useful generalizations, he will come to regulate his own behavior accordingly. As an example, one might consider the value choices related to the likelihood that soon there will be so many people in the world that the quality of life will be sorely threatened. In such a situation, which value is more important: the right of the individual to decide how many children he or she wishes to sire or bear, or the right of society to restrain the individual in order to safeguard the whole?

Nor can we expect the teacher to be value-free. To do so would not only render him a social eunuch, but would also provide a role model for the learner that is the direct opposite of what we wish him to become. We must expect teachers to

act as committed human beings who put forth their biases insofar as they can recognize them, but encourage and insist upon the expression of other points of view. A simple procedure to avoid any attempts at indoctrination is to have more than one resource person, as well as a variety of learning materials readily available.

While teachers may exemplify every ideal in social relations, the danger remains that the values being examined will be embalmed during presentation. The worst casualty of stultifying programs will be the student who adapts best, who learns a studied morality as opposed to developing one for himself.

Schools must also respect the moral imperatives of our times, reflecting the dependency of ethical behavior upon a mixture of knowledge and belief. The present social turbulence indicates, among other things, that we should encourage examination of what used to be known as religious values. The moral strictures of most religions are similar in many important respects. This fact alone gives the learner cause to wonder whether these similarities are mere accidents or whether they represent the combined wisdom of many other individuals like he who searched and found. Excellence in education should include helping the student develop a clear concept of human right and wrong.

But there is difficulty in equating the study of the human sciences with that of religious studies. Strong suspicions continue to linger in the minds of many that religion should be confined to the churches and not be extended into institutions for schooling at any level. However, if we define religion as the study and scholarship that takes as its province certain activities and beliefs commonly known as religious, then religious studies can be placed under the human sciences program and be subjected to the analysis that is part of these sciences.

Man's development is a matter of getting beyond himself, of transcending himself, of ceasing to be an animal, while still remembering his place in the ecological plan of life. Whether one sees religion as beneficial or destructive, it is a part of this experience. No one can deny its effect on man's self-understanding, destiny, way of life. To attempt to understand man without reference to his systems of belief and insight is to reduce and distort the whole purpose of such study. Thus, schooling in Alberta would be incomplete without a commitment to the human sciences in general, and to the field of religion in particular as a very important aspect of the human sciences and valuing.

The following guidelines can be used to shape programs for religious education: insight should be given into the role of religion, and in particular the Christian religion, in the formation of Alberta society; insight should be given into the nature, challenge and practical consequences of religious belief; religious education should reckon with the actual pluralism of people and practice in contemporary Alberta society and in the wider world; religious education should be both relevant to current experience and designed to broaden that experience towards an understanding of the religious dimensions in human culture. If such guidelines are put into operation, religious studies for credit to a student's program should be offered at all levels of recurrent education.

Impermanence is permanently in the centre of Alberta life. And while novelty is pleasant, and a part of man's nature craves it, his capacity to absorb novelty is limited. When change is too rapid, or when it corrodes the vital centres of belief and disrupts basic expectations, society sometimes overreacts. The call for order often fails to distinguish the difference between unity and uniformity. Unity can comprise a great variety of opinions and views. Unity can include dissension, conflicting ideas and opposition. Uniformity has everybody thinking alike or saying that they think alike.

No doubt the task of developing character through the process of education is difficult and full of hazards. But it is probably the only way to safeguard unity while avoiding uniformity.

We Albertans are a practical people with a firm and deeply ingrained set of expectations about life. Our expectations of institutions for schooling as the training ground for the way of life we value are similarly ingrained. It will not be easy, therefore, to implement the principles of adaptability and diversity so that openness to the new and reasonable comfort with uncertainty is promoted. Traditionally, formal schooling as an agent of cultural transfer has tended to deal in absolutes. We have often tried to teach a best way to behave, feel and think. Whenever students and teachers engage in activities that even question the uniformist tradition, they are likely to be subject to considerable community criticism. Thus, efforts to practice the valuing process in the classroom must be paralleled by efforts to persuade society that flexibility may be more important to the learner of all ages than acquiescence.

life experience

There is considerable agreement that the classroom of the future should be an entrance into the world and not an escape from it if we are to achieve the goal of social competence. The translation of this idea into program requires the daily on-going attention of every teacher in Alberta's institutions for schooling. In addition, it requires the identification and provision of the opportunity for certain activities or experiences that are systematically linked with the world of work, leisure and pleasure. It is these kinds of program content that are considered here, and in the sub-section on leisure and creativity that follows.

The proposal that is to be made is not simple and it may be misunderstood. Fundamentally, it suggests that the world of work and other areas of life be used by children, youth and mature adults as a life experience learning laboratory. The implications of this proposal are enormous since links are envisioned where none now exist and the whole work-ethic–indeed, the very meaning of work–is to be tilted, if not upset.

First, it is necessary to remember that this report envisions life as a process of recurrent education, both formal and informal. Each person is more or less learning from the time he is born until he dies. He graduates from learning only when he graduates from life. Certain times of his life are given over to intensive formal learning, certain other times to extensive informal learning, certain times to work and certain times to relaxation. These times run parallel to one another and are generally intertwined, although sometimes one or another activity may be pursued separately.

Thus, when it is suggested that the world of work and relaxation be used as a learning laboratory for recurrent education, traditional concepts about both work and education have been turned upside down. Traditionally, education is seen as a laboratory in which people learn how to work, while this report sees work as a laboratory for education.

Before discussing the logistics of how this is to be managed, what problems will arise, how organized labor will react and what scholars will say, consider two examples of an integrated life experience program in action.

A 15 year old boy attends a school in the city. Don't ask him what grade he is in because he doesn't know, but he reads widely, doesn't enjoy writing very much and can program a computer fairly well. He has learned how to get along with people, is having trouble with his mastery course in ecology, spent six months as an exchange student in Quebec when he was 11, plays chess, hockey and pretty good guitar. He has trouble with Mode III, is only adequate in Mode I and excels in Mode II. He thinks he wants to be a recreation leader and works two afternoons a week at a city playground as part of his career guidance program. He is also interested in flying, but probably not as an occupation. He receives free flying lessons every Wednesday morning in the simulator at the city heliport in return for his playground work. The flying lessons are part of his independent program in recreational studies at the school. His teacher in recreational studies this term is a park warden on life experience leave from his job at Elk Island. He teaches recreation in return for free tuition and board at the university, where he is studying landscape painting. Last term's teacher in recreational studies was a ski instructor from Banff who spent most of his time learning log cabin construction in the school's construction laboratory.

A 45 year old woman from Stettler is attending college in Red Deer. Her son and daughter are attending the same college and they all live together in the life experience residences. Her husband is still at his job in Stettler where he is a refrigeration mechanic, but he will be joining the family next month when his six weeks recreational leave begins. He used up his life experience leave two years ago learning the fundamentals of archeology as an apprentice to three professors working on a dig near Drumheller. He will spend much of his recreational leave excavating a midden near Sylvan Lake. The woman has decided to study anthropology so that she can aid her husband in his hobby. One of their sons is in teacher training, specializing in business education. He works at a local accounting firm 15 hours a week as part of his course and receives enough money from this source to meet all his expenses. His sister is studying communications and works part-time as a continuity writer at the Red Deer TV station, on the same basis as her brother. The whole family intends to make a documentary movie on an early Alberta trading post. It will be partly financed by the Federal Department of Indian Affairs.

These two examples will serve to provide some perspective on the life experience program. They will also serve to introduce some of the complex arrangements that underlie such a program and illustrate the many cooperative links that must be forged before such a program can be carried out. It should be pointed out, however, that such programs do exist, especially in the Scandinavian countries, and that they have been introduced in some parts of North America. The work experience program already under way in many Alberta schools is a beginning in the same direction.

life experience in basic and higher education

Several types of work-study arrangements can be identified for students during basic and higher education. Many of these students, of course, are already securing part-time employment to finance their studies. Often they arrange alternate periods of study and work. A place for these types of arrangements will continue to exist, but both are primarily aimed at financial gain for the student. The purpose here is to emphasize the educational benefit derived from work, and this requires some form of cooperative arrangements between institutions for schooling, a host of business and community agencies, individual craftsmen and practitioners, and several levels of government.

Embryonic life experience programs have already emerged for small numbers of students in many urban centres in Alberta. The Alberta Ecology Corps and its successor, the Summer Temporary Employment Program, as well as the federal Opportunities for Youth program have life experience objectives. So do the so-called sandwich programs found in the engineering field, the cooperative education programs in some colleges, and the apprenticeship arrangements of our technical institutes. Obviously, all such programs would have to be expanded and others developed in order to reduce the isolation of our schools, colleges, institutes and universities. One of the objectives is to bring youth into collegial and helping relations both with adults and each other in significant activities of the community.

We know that people learn best when they have success, when the rewards for their efforts are immediate, and when their efforts are relevant to their immediate and long-range goals. Furthermore, as the futures-forecasts in Section I indicate, it is not man who will become obsolete–it is only unskilled man. There will be little use for people who are automatons. The idea that a traditional general education will suffice in the future is 18th century logic; it does not fit with what we know about the nature of our present environment. In the future, everyone must receive some measure of occupational preparation and training; the only question is when it should take place. For some it should be in the senior years of basic education; for some in colleges, for some in AVTCs, for some in institutes, and for some in universities.

The most vital daily activity of all adults will continue to be work necessary to the functioning of society. To exclude our youth from this activity is to exclude them from the most basic part of society. For these reasons, the school of tomorrow must develop a concept and a program that will make education relevant to the adult role. Most young people have little knowledge of the kinds of work that will be done when they become adults. The time when youngsters knew about work by casual acquaintance with it in the community is gone. Schools must begin career discussions and orientation as part of the anticipation function. Beginning at the intermediate level, exploration into broad occupational areas should be available to all students.

At the senior school level, students should continue investigation into careers, with emphasis on group career guidance, coupled with work experience for school credit and wages. Volunteer or paid activities related to career choices –such as service in hospitals, schools, government offices and private organizations–should offer a chance to gain not only information but actual job skills. Everyone needs the opportunity to learn employability skills, such as responsibility, cooperation, taking instructions, being on time and remaining on the job. More people lose jobs because of the lack of these skills than for any other reason.

The basic purpose of the career-oriented approach is not to force students to make an early selection of a specific career, but rather to make all young people aware of the options available to them. The school then becomes the vehicle for achieving their goals rather than a prestructured institution to which they must adapt.

This is not a proposal to substitute learning on the job for the deeper insights and the knowledge and skills that scholars have developed. The teacher, the books, other materials of the school, and the intellectual resources of the community are to be employed by the student as he works on the problems of his job and carries through projects in which he is engaged. When he is actually doing work that he finds significant, he can see for himself, with the aid of those who know the field, that many kinds of learning are helpful and even necessary. Coordinators will be needed to connect schooling with the world of work and social action, and teachers will need to learn to organize the content of school studies and assist students to use it in connection with the activities in which they are engaged.

The student would be concerned with civic activities as well as with gainful employment. In these activities, he would confront real-life problems that involve values, aesthetics and public policy. The opportunity is thus provided for the student to progress in a more meaningful fashion toward the goals of social competence and ethical discretion, in addition to that of career proficiency.

Related services necessary for student participation in such programs should be provided through the schools. These may include health care, transportation, food, clothing and money necessary to continue in school. Much of this money could be earned through cooperative education programs and by adapting present social assistance and manpower programs to the basic education program. The aim would be to make the school the best social agency to meet the needs of young people and to make education the best vehicle through which to achieve individual success.

All federal, provincial and local government agencies should be encouraged to provide work experience related to educational and career goals for all youth in school, beginning at the senior school level and continuing through higher education. Part of their budgets should be devoted to youth work experience in cooperation with local institutions for schooling, which would supervise the programs and give educational credit. Priorities in these programs should be given to those who most need the money or this type of experience.

Wage rate legislation would have to be adjusted, allowing employers to pay lower wages to student workers. Other countries have already established such a law, setting wage scales as a percentage of the minimum wage in the occupational area. Fear that such legislation would undermine wage standards is ill-founded. Youth always constitute a portion of the labor force, and their effective education and training is the best guarantee of future economic growth to pay higher wages to all. The existing apprentice structure does not appear too incompatible with the goals of organized labor, nor with the life experience program.

Students need to escape the shelter of irresponsibility that basic education presently provides. Life experience will allow them to make the transition between theory and practice, between irresponsibility and responsibility, and between irrelevancy and relevancy. Studies have shown that students who participate in such programs are more strongly motivated to study, obtain employment more easily and exhibit more stability and satisfaction. Institutions can benefit since they gain a diverse staff of associate instructors, and require less equipment for specialized training purposes. Further, the institutional staff is linked to the world of current practice. Governments can benefit through improved manpower flow, and decreased expenditures for vocational training facilities. Employers benefit by having a trained manpower pool, closer contact with the world of scholarship, and improved public relations.

So far this discussion has been concentrating on work experience as slightly distinct from other life experiences. Three questions have been skirted. What about children too young to benefit from work experience? If recurrent education is planned toward equipping the learner to manage his own life, and if he learns this through work experience, why have schools at all? Since mature adults already have work experience, what implication has the life experience program for them? The first two will be dealt with here and the third reserved for later.

Life experience does not propose that nine-year-olds return to the coal pits. It does propose, however, much more field experience in childhood education. More community visits, field trips, business tours, visits with artisans, industrial tours, recreational visits, nature study, outdoor educational activities and cultural excursions are essential. More exchange visits, even within a single town or city and certainly between urban and rural, province and province, country and country should be developed. Children of the affluent should exchange visits with children of the poor, children of the pavement with children of the parkland, and children of new Canadians with children of rooted Canadians. Educational laboratories for young children exist in abundance.

In addition, a dual approach towards the world of working and living must be developed in basic education and followed through in higher education. This approach is in answer to the query: if direct experience is so great, why have schools at all?

Direct experience provides a learner with the personal knowledge necessary to manage his own life. He already gets some such experience outside school and he should get more in school. At the same time, however, he must acquire a scientific and technical understanding of the worth of his new knowledge, and the humanistic scholarship necessary to keep it all in perspective. This is the dual approach that future education must have–theory and practice. Practice is limited by a school setting; theory is limited by a practical setting.

The humanistic scholarship necessary to keep practice in perspective already exists in our schools and institutions of higher education. It needs to be presented in better, more relevant ways, but its foundation is there since our traditional approach to schooling has given it emphasis. The scientific and technical understanding exhibited by our institutions for schooling, however, must be newly synthesized and presented more realistically. Few teachers really understand what is happening in this technological age.

At the very least, schools, colleges, institutes and universities must begin introducing new courses with names like Technology and Man, Man-Made and Natural Systems, Technography, Cybernetics–and they must have the rationale, the resources and the teachers to back this approach. This is at the very least. Perhaps the most that could be expected would be a redrafting of the entire educational program to include technological concepts such as these as an indivisible part of the total learning experience.

Such course names as have been suggested may be meaningless except to engineers and physicists. This in itself is an indictment of schooling; these terms should not be meaningless. In simplest form, adopting a technological outlook suggests that the history of civilization is the history of man's development of tools. Tools, however, are more than mechanical instruments. They include every extension of man's mind and body which he has used to control nature and himself–words, symbols, levers, mathematics, philosophy, movable type, architecture, music, engines, birth control pills, computers and on and on. Underlying all this are the natural and physical laws and man's multitudinous ways of using them.

When the humanistic and technological dynamics of our civilization are made clear, when they are put into perspective and then practiced, basic and higher education will then become the meaningful enterprise that it must be.

life experience in further education

For the students of basic and higher education, integrated work experience is a vital aid to the selection of life and career options. But what are the implications of the same program to mature students of further education who have already established their careers? First, some of these people may wish to change their careers, or may have to. Under these circumstances, the same benefits of combined practical and theoretical schooling would be available to those training for new careers or updating old ones. Second, and perhaps most important, many of the skills of recreation and relaxation are amenable to a work experience approach–as ski patrollers, life guards, coin collectors, musicians and antique dealers can attest. What is work for some can be recreation for others.

If we accept predictions of a shorter work week and greatly increased leisure time in the future, a number of new avenues of further education are opened. For instance, instead of working a three-day-week, some people may wish to work a six-day-week and take a fully paid half year off for life experience leave–either for recreation, education or travel.

If the leave is for recreation, certain skills may have to be learned. This raises the opportunity for adults to become apprentice artisans, craftsmen's helpers, and to work at hundreds of occupations–not merely for the money, but as a means of learning skills for later recreation. Similarly, as preparation for travel, others will want to learn about the countries they will visit and study their languages. They may enroll in tours that combine education with travel–travelling classrooms convened on boats, buses, bicycles, trains and airplanes. Some of these might be cooperative work experiences in which the learners become crewmen, drivers, baby-sitters, teachers and guides.

What all this amounts to is a sort of life experience figure eight. In the first loop, work is blended with schooling as preparation for life; in the second, schooling is blended with work as a means of broadening life experience–through recreation and self-development. The Alberta Academy proposed in Section III will become a very important part of the second loop.

So far, there has been little attempt here to bring outside parties to this cooperative enterprise–that is, the organizing elements and incentive plans that could spark such a program at the further education level. Some aspects of the program could be initiated by individuals themselves, bartering their services in return for learning experiences. Employers would find many opportunities to encourage such programs–indeed, some already have through financial incentives, flexible hours of work, temporary transfers, exchanges, study leaves, and a variety of personnel development plans. These moves have led to increased employee satisfaction, with life as well as work. Similarly, some Alberta institutions have begun life experience plans, including study tours, learning workshops and field experiences. The extension departments of our two larger universities and the Banff Centre have been especially alert to these opportunities.

Some mention has already been made of provincial and federal activities toward similar objectives in basic and higher education. Both levels of government have also instituted retraining and temporary work programs for jobless adults. Other measures are underway but most are aimed at unemployment. The Canada Council has aided, in some ways, the objectives of life experience among adults. But why not an Opportunity for Adults with Youthful Ideals program?

In the longer term, the concept of an educational bank is certainly worth pursuing, but it seems practical only at the federal level. In essence it implies that everyone is entitled to a certain number of years schooling at public expense. If he does not choose to use it all during his youth he may draw on it later. Many people who pay education taxes but who do not have children attending school would probably applaud such a program.

The challenge of further education is to bring opportunity to adults who feel locked in–either by their jobs, their incomes, their locations, their responsibilities or their life-styles. This does not necessarily mean escape; for some a new sense of purpose and new horizons will satisfy the need. Life experience programs offer great opportunity for individual expression in a technically oriented future.

outlook

Schooling has been seen as a bridge between man and work since its inception. But is the bridge there for the sake of the individual or for the sake of industry? There is a big difference. One view holds that schooling provides skills as a means of developing the individual's own sense of personal worth and competence. The other view holds that schooling produces skills to feed the needs of the economy. This report stresses that skill development is an integral part of each person's human potential. What the economy really needs is skilled individuals, not individual skills. Life experience programs similar to those described here are a content imperative for the future.

It is impossible to gauge the effect of life experience programs upon educational financing because so many levels of financial responsibility are involved–individuals, employers, institutions and governments. Certain aspects of such programs imply savings; others imply greater expenditures; all imply greater end benefit to the individual, to organizations and to society at large.

Individual school boards and the Department of Advanced Education ought to coordinate the work opportunities available at the municipal and provincial levels of government. Stimulation of cooperation within the commercial sector of our economy could be performed by two organizations ideally suited to the task. The Alberta Chamber of Commerce, with its 121 branches and 30,000 members, might serve as an excellent vehicle for reaching the management members of our province's business community. The Alberta Federation of Labour could explain the value and purpose of life experience programming, to its 200 affiliated unions and their approximately 60,000 members, so that all would understand that student jobs do not exist at the expense of full or part-time employees. Then union locals and individual members might also encourage management to participate in life experience programming.

In developing the content of life experiences the warnings offered by the futures-forecasts in Section I are worth remembering. They support the dictum: man does not live by bread alone. The future holds some hard times. Not necessarily in the sense of a struggle to sustain life, but in a different sense–a struggle to make living worthwhile. As we become increasingly adept at satisfying our basic physical needs we run the risk of becoming more inept in meeting higher order needs. In the long run, the major focus of life experience programs must be to develop persons who are self-fulfilling in themselves, and who also have the commitment and the talent to carry to a successful conclusion the struggle against the poverty, the alienation, and the divisiveness that threaten the Canadian nation.

leisure and creativity

Together with their concerns for life experiences related to the world of work and social competence, many of the submissions before the Commission dealt with provisions for the expanding world of leisure. As might be expected, the overriding emphasis was on aesthetic and recreational experiences designed to enhance creative capacity and personal autonomy. Such experiences would require the allocation of more time to studies under such general labels as physical education, the fine arts and outdoor education. They would also require greater emphasis on multi-media activities by learners and for learners.

Teaching man to enchance his leisure has long been one of the avowed ambitions of school programs. But this has usually been a minor ambition. Only recently have we recognized that adults of 40 rarely engage in hockey or track and field. Consequently, we are now including swimming, golf, handball and other lifetime activities within the physical education program. Similar recognition has caused us to add music and art appreciation courses, creative writing and cooking, and a variety of other activities which have recreational potential–all intended to encourage interests and aptitudes that would serve the student later in life.

The success of these programs can be measured by their products. A very few of us today attend concerts and the theatre; a somewhat larger minority absorbs so-called intellectual fare through reading and certain television programs; while the vast majority gives itself to popular, often mindless, television schedules, and a host of other activities just as lazy and just as meaningless. Quite a few of our

younger educational products take drugs to escape from the ordinary, trying to make it seem fuller, more interesting, worthwhile. It would appear that our institutions for schooling have not prepared people for, or motivated them toward, fuller, more interesting lives.

The clear implication of the futures-forecasts in Section I is that off-job time will be a new and challenging arena for schooling. The challenge will be eased by the public's striving towards avocational fulfillment, but the battle against painless, seductive spectator entertainment must still be fought. This task is made more difficult because Canadian business is coming to recognize that recreation is a very lucrative market, and that spectator recreation is especially lucrative. While spectatorship has its place, it does not serve as a very good recreational model. A person may think that he is fairly well off recreationally when he has a color television set and season's tickets to the football games. But fairly well is not well enough.

Living fairly well is to reap the benefits of membership in the mass production society. Living fairly well means clothes, cars, mass entertainment, abundant commercially produced food and drink. Living fairly well is stuffing the mass stomach with all the processed benefits stimulated by system-worship of the dollar.

Living really well means living as an authentic individual. Living really well can include the pleasures of living fairly well – if one has time. For living really well encourages those forms of enjoyment that cannot be mass-produced: playing musical instruments, creative expression in the arts, participation in sports, refurbishing one's home and, hopefully, one's life.

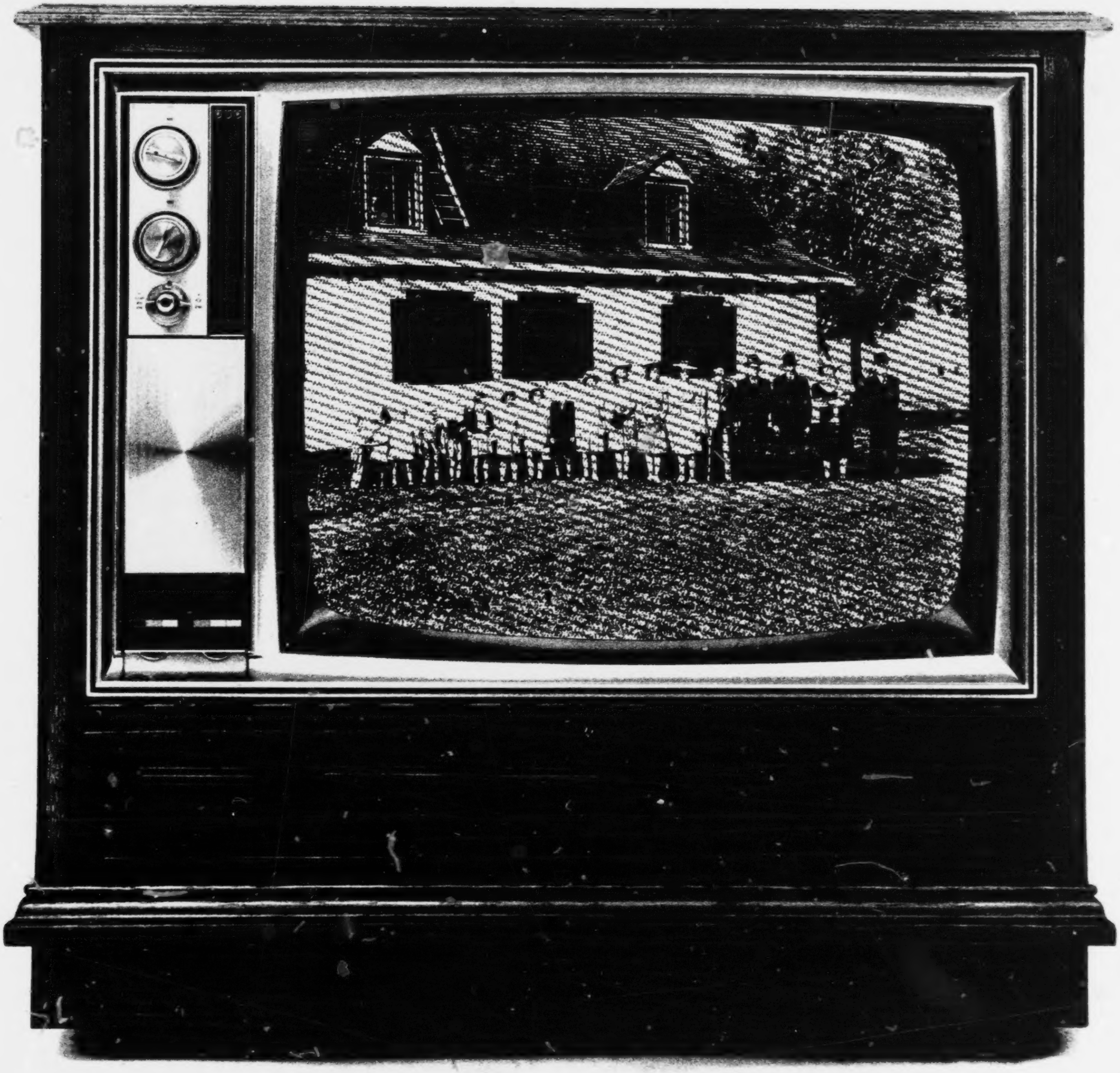
In attempting to communicate the difference between living fairly well and living really well, schools can at least help the individual develop a sensible attitude toward consuming. The good things in life are many and diverse, and one must learn to be both a discriminate and prudent consumer. This applies even more to pleasures than to goods – although many today cannot differentiate between the two. Leisure is time, our time, our life, and we must learn to evaluate it and establish our priorities accordingly.

The familiar issue of cultural diversity is again relevant here. In the past, most of the attempts to promote good use of leisure time have been rooted in the belief that the only activities worth consideration were those espoused by the middle class ethos and the often self-identified cultural elite. In the future we must act on the conviction that the use of leisure is an intimately personal and highly creative matter. We must seek quality but not conformity.

Early and basic and higher education must meet the challenge now posed by a television generation whose home lives may have failed to nourish healthy and diverse pastimes. If present trends continue, the challenge will be even greater tomorrow. The school must provide each child with infinite variety and encourage him to engage in recreational activities that really are activities, rather than passivities. Participation, wholesome diversity, direct experience, individual expression – these are the tenets of recreation. And in further education the need is equally great for active programming – perhaps as compensation for the older half of our population having been born, educationally, too soon.

The content of future programs aimed at leisure and creativity should also take into account the need for people to give some of their off-job time to rewarding companionship and helping others. Because man is a social animal, it is essential that he have meaningful relationships with others. We cannot control our associations on the job, and we often must learn to work with people who could never be our friends. During leisure time, however, we are free to seek and develop significant associations, satisfying human interactions that help us to better ourselves and others. Whatever we do with our acquaintances, whether it is primarily work, play, exchange of ideas or love, or any combination thereof, authentic involvement is what is important. An imperative responsibility of the schooling process must be to inculcate a lasting desire in each to interrelate with others.

Many of us satisfy this desire through parenthood. It is strange and sad that many act as though time given to parenthood is wasted. We provide material goods for our children, give them love according to our schedules, but withhold our time. Infants and adolescents require guidance, and guidance requires time – often quite a bit of it. We are our children's first and most important teachers. Yet if the teachers we hire spent as little time with our children as do most of us – fathers in particular – we would fire them. Fathers who help their children develop themselves – their skills, their interests, and their values – will in great measure determine the kind of civilization the next generation will create. The time given to thoughtful mothering will be equally rewarded. Nor do most of us play enough with our children. We forget that play is a form of learning. One of the most critical roles of institutions for schooling is to promote responsible parenthood. And programs about child-rearing must reach beyond our conventional buildings into televised learning and life experience activities.



Finally, we must destroy the notion that play is childish. Pure, fanciful play for its own sake can have enormous rewards for human beings, as any psychiatrist will testify. We all tend to take ourselves too seriously. Our model for successful man has little time for play. Our model is wrong. Now that we have the time, let us give at least part of it to the joys of laughing–especially at ourselves.

special concerns

It is impossible to examine content in all its possible variations, or to deal with the host of subjects that require different approaches and different organizing elements–or even with those that should be singled out for special praise. There were, however, many submissions to the Commission about drug education, languages, Canadian studies and environmental education. Since these topics are of obvious special concern to the Alberta public, and since each has broad implications for the future, it has been decided to accord them special treatment.

drug education

Researchers know that any drug is dangerous if its use is abused–even aspirin. They know that some people cannot tolerate certain drugs at all–even the presumably safe drugs. Further, there is considerable historical evidence to show that some of the presumably safe substances of one decade may turn out to be deadly by the next decade. Researchers can, therefore, say that all drugs are dangerous–to someone or in some degree. Certain drugs are clearly harmful or addictive and others are suspected to be so, even without definitive research evidence.

Once a drug has proven itself harmful to health, society's chief remedy has been restriction and education. If that drug happens to be an intoxicant which produces pleasant or desirable effects, then restriction is often difficult and education must be unusually clear and forceful. If that intoxicant is only suspected as harmful, then education and law enforcement agencies face a considerable quandary. While our society has agreed that it will restrict individual freedom in the face of proven harm (e.g. heroin) it has not always agreed that it will restrict freedom in the face of potential danger (e.g. alcohol and tobacco). Society is inconsistent here; sometimes it restricts (marijuana)–sometimes it warns (tobacco). It is difficult for teachers to be consistent when society is not.

Our task becomes yet more onerous when it is either proven or suspected that a drug is harmful not to our health, *per se*, but to the way of life cherished by the voting majority (marijuana). There are those individuals who will suspect that society is far more concerned with its established way of life than with either the health or the freedom of its citizens, and thereafter be cynical toward any educational program. This does not mean that drug education does not work, just that it does not always work.

The facts are often obscured, but drug education has swayed a considerable majority of our young people toward abstinence and moderation. Education is still a solid bet for turning young people away from drug abuse, even though it is not a sure bet. While its chief target audience will be young people in their schools, churches, clubs and other youth groups, drug education must also reach, with near equal force, the public at large. And special programs should be directed towards doctors, law enforcement officers, social workers, teachers, churchmen and, of course, parents.

While formal schooling against imprudent drug use is a potent force, it is not our only force–nor should it be. Education against anything is best accompanied by education for something–some positive alternative. Even if the negative approach is successful on its own, positive alternatives are never wasted. In practice, of course, the positive approach will probably precede the negative in schooling if the teacher has prepared well.

The approach of the Calgary Public School Board in its experimental program warrants careful scrutiny from this viewpoint. Their project bears the awesome title of Intoxicant Problem Avoidance Capability Instruction and is based on the assumption that drug and liquor problems arise, in the main, from a person's inability to make effective use of leisure time. Accordingly, the development of a wide variety of general and specific living skills is recommended as the most effective counterattack to the intoxicant problem. In substance, and sometimes in paraphrase, the Calgary program has the following rationale.

People think they benefit in some way from using intoxicants. What they really get may be trivial or it may be profound, depending on the intoxicant, the individual, and the situation. Intoxicant use is generally a recreational activity. People seem to require change–a change of roles, a change of routine, a change of thought. These changes may involve sports activities such as golfing, or they may involve other things such as a second job or volunteer social work. Intoxicants are effective in bringing about change; a person who is intoxicated is different in some way from when he is not intoxicated.

A person may approach intoxication, or recreation, on four levels: the fanciful, the exploratory, the insightful and the mystic. Each of these levels indicates a progression of difficulty. Many people involved in what is often called psychedelic religion are attempting to work at levels three and four. However, most intoxicant use is at level one.

An individual's life situation will probably determine the level at which intoxication is pursued. People who are living from hand to mouth or within the short time-horizon of the adolescent will probably choose recreation, or intoxication, which allows fantasy or desensitization. Thus, these people tend to choose adventure or romance magazines, intense physical involvement, and sedated, euphoric, or sleep-like states with large quantities of alcohol or any quantity of opiates. It would be a rarity to find a person in this situation reading a literary magazine, attending evening sensivity sessions, or taking LSD.

People who have long time-horizons, high mobility, and few locked-in personal commitments, such as many people in the middle class, are likely to choose recreation, and intoxication, that is explorative or sensitizing, that produces awareness, and that intellectually expands their life situation. Literary magazines, sensitivity sessions, self-improvement projects, and sensitizing drugs are all used in these ways.

The major problem with intoxicants is that they are extremely easy to use, at least at level one or two, and they are almost immediately effective. People do not know how, or even if, similar or better results could be achieved using other methods.

Albertans typically learn certain alternatives fairly well but these are usually the alternatives associated with adaptation to life within organizations and institutions. They have not learned the alternatives associated with outside social life and leisure activities nearly so well. This is shown by our high incidence of mental illness, intoxicant dependence, alienation and the generally lacklustre way in which people approach leisure activities and non-institutionally defined roles. Many people seem to be competent to live someone else's version of their lives, while lacking the skills to live their own version.

Although there does not seem to be any way of preventing people from using easy-to-get intoxicants experimentally, there does seem to be a way to prevent them from becoming dependent on intoxicants or from using them in ways that pose serious problems. That way is to teach them how to achieve equivalent or better results in other ways–with less risk or liability. Since each intoxicant has a different return and because each individual approaches intoxication accord-

ing to the expectation levels that have been mentioned earlier, no single alternative will be applicable. The individual must be given the knowledge and skill to find these alternatives for himself.

The challenge then, is to devise some way for an individual to acquire a highly functional set of living skills that will allow him the widest possible individual expression. These living skills must be aimed at competence in situation management and planning. The basic elements of situation management are commonly taught in business administration schools, military field officer training and systems engineering. These elements can be adapted to our individual life context, and should be well within the reach of the average adolescent. Devising a way for individuals to develop these skills during basic education is the object of the Calgary program.

The Calgary argument is a very persuasive one, especially since it is so consistent with this report's call for lifelong learning and self-actualization. In fact, the skills associated with situational management are a process imperative for both the present and the future. The pace of change demands such skills and the drug problem can be directly traced to the dislocating influences of change.

Heartbreaking though the consequences may be, learning how to deal with drugs and other intoxicants is much the same as learning how to deal with anything. The individual must learn for himself; no one else can learn for him. Teachers can only be as successful as their skill and ammunition allow them to be. This section recommends some new teaching skills; it is incumbent upon society to provide the ammunition–in the form of clear cut legislation, appropriate law enforcement and more research evidence.

languages

If we really believe that the retention of diversity is important in the mass culture of the future, then the fostering of other language learning will be a major task for educators and society. Quite aside from the unquestioned usefulness of learning another language, this accomplishment also has deep personal meaning. It has been said that he who knows no other language has never really learned his own. Effective language learning results in a broadening experience for the individual by providing him with the means of viewing his world from a different perspective. He gets this perspective by entering into the culture of other people, through knowledge of their language.

The political and cultural ferment in Quebec has thrown more heat than light on the question of other language study in Canada and Alberta. There is confusion in our province, and in the rest of Canada, concerning the difference between integration and assimilation. The Report of the Royal Commission on Bilingualism and Biculturalism distinguishes between these two processes very clearly in Volume IV. The report takes the view that various cultural groups should be permitted to integrate into the Canadian society without loss of identity or their original language and culture. While the report does not altogether condemn assimilation, which implies a total abandonment of one's heritage, it concludes that the choice between integration and assimilation must be made freely at the option of the individual. Only by keeping integration as an open alternative can there be any choice at all.

The B&B position offers a sound basis for strengthening all of basic education's language programs–not just French alone. A generous choice of programs must be kept open to Albertans if integration is to be achieved. Languages should be offered at the option of local school boards and councils where there is a reasonable and sustained demand.

Recent Alberta legislation recognizes that in Grades I and II any language may be the major language of instruction as long as English is used for one hour a day. In Grades III through XII a school board may decide that another language of instruction will be used for half the school day, provided the opportunity to be taught fully in English is granted to children whose parents request it, and the Minister of Education approves the plan.

Many different languages are already being taught in Alberta. They include French, both as a language of instruction and as a language of study from Grades VII through XII; Spanish, Russian and Hungarian, from Grades X through XII on a local option basis. German, Ukrainian and Latin, right up to the matriculation level, have been offered for some time, and Italian has been recently approved. All three Alberta universities offer language studies in French, German and Russian. Italian, Spanish, Greek and Latin are offered at the universities in Edmonton and Calgary, Additionally, Ukrainian, Polish and Serbo-Croatian are offered in Edmonton, while Calgary offers a course in Portuguese. The Banff Centre is emphasizing a popular French instruction program that received federal recognition last summer. The colleges are also active in French instruction and some additional languages.

Alberta has not, however, escaped the singular indifference and suspicion traditionally shown by North Americans towards foreign languages. We will have to accord other language study greater status in our schools before it is viewed with universal acclaim, as in other countries.

Once an interest in the study of a second language is aroused, it is important that it does not become merely a study of rules of grammar or acquisition of vocabulary. The cultural context of each language is important if that language is to have a living base. Hence, it is desirable that specific topics in social studies, literature and the fine arts be included in the language under study.

Equally important is the launching of second language learning in childhood education. Between age four and 10 is the time when oral language learning proceeds most rapidly. Written mastery of the target language is best delayed until after age 12.

At least one Alberta university should endeavor to develop a measure of specialization in native languages in collaboration with the Alberta Indian Education Centre. All universities should strengthen their ethno-cultural programs, including those studies of unique relevance to Canadians, in order to supply the trained personnel, and the status, for basic education programs. Additionally, the emerging role of Collège Universitaire St. Jean in French-Canadian studies should be strengthened. At the same time, opportunities in further education for language learning by adults should be stimulated. Persons wishing to learn French to enhance their occupational and cultural opportunities should receive direct subsidy from federal funds earmarked for encouraging French language programs outside Quebec.

The crucially important thing is that we stop playing around with language study and make it possible for children and adults to become truly fluent in the language they wish to learn – be it Cree, French, German, Italian, Japanese, Ukrainian, or whatever. The tokenism of today is not good enough.

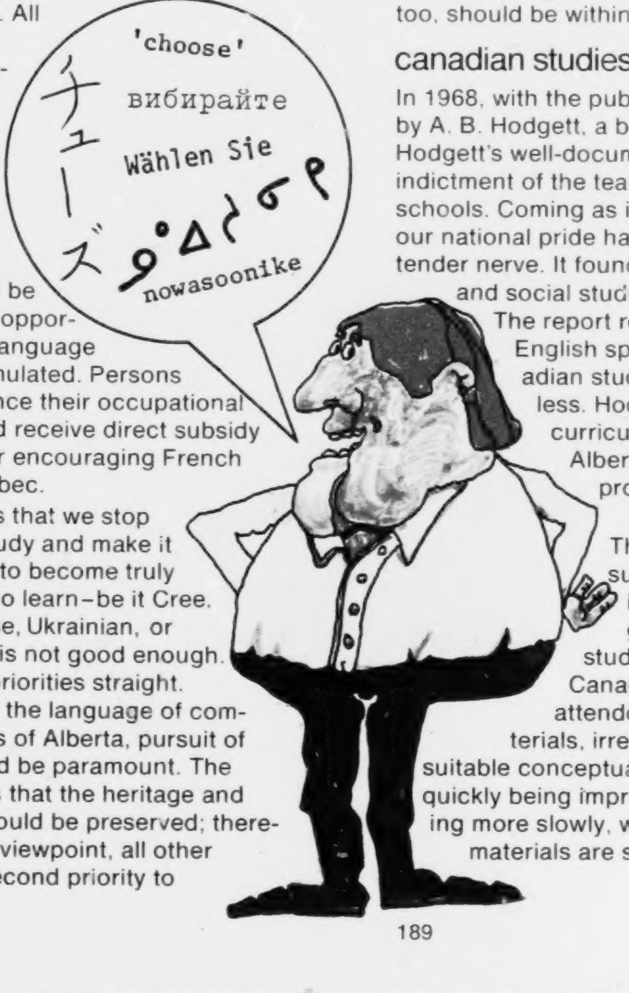
But let us also get our public priorities straight. Since English will continue to be the language of communication in most if not all parts of Alberta, pursuit of competence in its mastery should be paramount. The concept of multi-culturalism says that the heritage and language of all ethnic groups should be preserved; therefore, from a purely multi-cultural viewpoint, all other languages should share equal second priority to English. But Alberta cannot establish its language learning priorities purely from a multi-cultural viewpoint when Canada is also a bilingual country, in which 28 percent of the population have French as a mother tongue. Hence, French is doubly advantageous: it has advantages equal to those of any other second language from a multi-cultural viewpoint and the uncommon utility of being one of Canada's official languages. French should, therefore, be next in priority to English.

At the same time, the implications of recent evidence that young people growing up in ethnic communities in Calgary and Edmonton seem to be relinquishing their ethnic heritage must be pondered. We should not, however, force any second language on people in Alberta. Individuals must be free to remain unilingual if they wish. But for others, trilingualism, too, should be within easy reach.

canadian studies

In 1968, with the publication of *What Culture? What Heritage?* by A. B. Hodgett, a bombshell hit Canadian education. Hodgett's well-documented report amounted to a devastating indictment of the teaching of Canadian studies in our nation's schools. Coming as it did the year after Expo, at a time when our national pride had reached its zenith, the report struck a tender nerve. It found the teaching of Canadian history, civics and social studies to be dull, dated, divisive and damaging. The report revealed that 82 percent of Canada's English speaking students definitely disliked Canadian studies and found them boring and meaningless. Hodgett's analysis included the Alberta curriculum and representative samplings of Alberta students. He noted, however, some promising trends in our province.

What is the situation in Alberta now? The evidence before the Commission suggests that the state of Canadian studies is improving but still has a long way to go. There is ample opportunity for students in basic education to engage in Canadian studies. But this opportunity is attended by three problems: poor quality materials, irrelevant teaching techniques and unsuitable conceptual frameworks. The frameworks are quickly being improved; but teacher techniques are changing more slowly, while suitable print and projected materials are still nearly impossible to find.



An ideal Canadian studies program must recognize that Canada has a federal system of government, is a multicultural nation and has a role to play on the world's international stage. The program should seek ways and means to help young Canadians to become more knowledgeable about the complexities, challenges and opportunities of modern Canada and more intelligently concerned about its future. The program should strengthen civic and cultural life in Canada by encouraging a greater appreciation of other regions' and other ethnic groups' value systems, aspirations and views of Canada. These goals should be achieved without the accompanying dangers of narrow, nationalist and isolationist views with respect to Canada on the international scene.

More specific topics have been identified by the Canada Studies Foundation as warranting national concern. These include:

the cultural and economic impact of the United States on Canadian society;

the relations between French and English-speaking Canadians;

native peoples and other minority ethnic groups; the so-called Third Force in Canadian society;

the growth of the cities and problems of urbanization;

resource use and conservation;

regionalism, its inevitable growth; regional economic disparities and cultural differences;

Dominion-Provincial relations within Canadian federalism;

the values of an affluent, industrialized society (values that many students seem to be questioning);

decision making processes in government and industry; the role of individuals and groups, including political parties; the growth of bureaucracy; the need for better communications between governments and people; a more realistic behavioral approach to political studies;

labor-management relations;

foreign affairs: foreign and defence policies; aid programs; Canada's role in the United Nations and other international organizations;

the apparent failure to recognize the commentary of Canadian writers, musicians and artists on their society—not necessarily from the viewpoint of artistic excellence or otherwise, but what these people were and are saying about Canada in words, music, paint and in their own lives.

The identification of these Canadian concerns, however, does not provide a program for Canadian studies. It is merely a modest first step and heralds the need for professional activity in program development. There cannot be a viable Canadian studies program without the necessary materials: books, media, and packaged learning kits. The Instructional Media Committee of the Canadian Council of Ministers of Education is reportedly developing strategies in this area but they have not yet made a public report.

A complete revamping of the Alberta social studies program is already well underway by the Department of Education. Wary of any narrow nationalistic approach to Canadian studies and mindful of the diverse ethnic composition of our society, the builders of the new Alberta social studies program have opted for a new direction; a direction that asks students to attend to a global view that will allow them to perceive Canada as it honestly is with all her strengths and blemishes. Students will be given opportunities in their studies to consider Canadianism in the context of the global world. In this respect, Alberta, perhaps more than any other province in Canada, seems to have moved toward a multiethnic conception of Canada.

Meanwhile another group of program developers is at work in Alberta: Project Canada West. Funded by the four teachers' federations in Western Canada, and allied with the Canada Studies Foundation, this group has chosen to develop one particular item from the list of 12 noted earlier: the growth of Canadian cities and problems of urbanization. Emphasis is on encouraging direct student involvement in community life as a means of nurturing the skills and propensity for decision-making in an urban context. Careful attention is also being given to fostering growth and change in teacher skills and attitudes paralleling the provision of more effective instructional materials. For these reasons, Project Canada West's particular approach may serve as a very useful model for local program builders.

Clearly all of these developments are hindered by the lack of suitable Canadian materials. While the conceptual frameworks being developed show much promise, most teachers require more than promises to appease the appetites of their students. Some teachers have shown remarkable initiative in seeking out materials suitable to the new approach but they are the first to admit the task has been difficult. In the learning resources portion of Section VI of this report some specific suggestions are made concerning ways of further stimulating the production of Canadian studies materials.

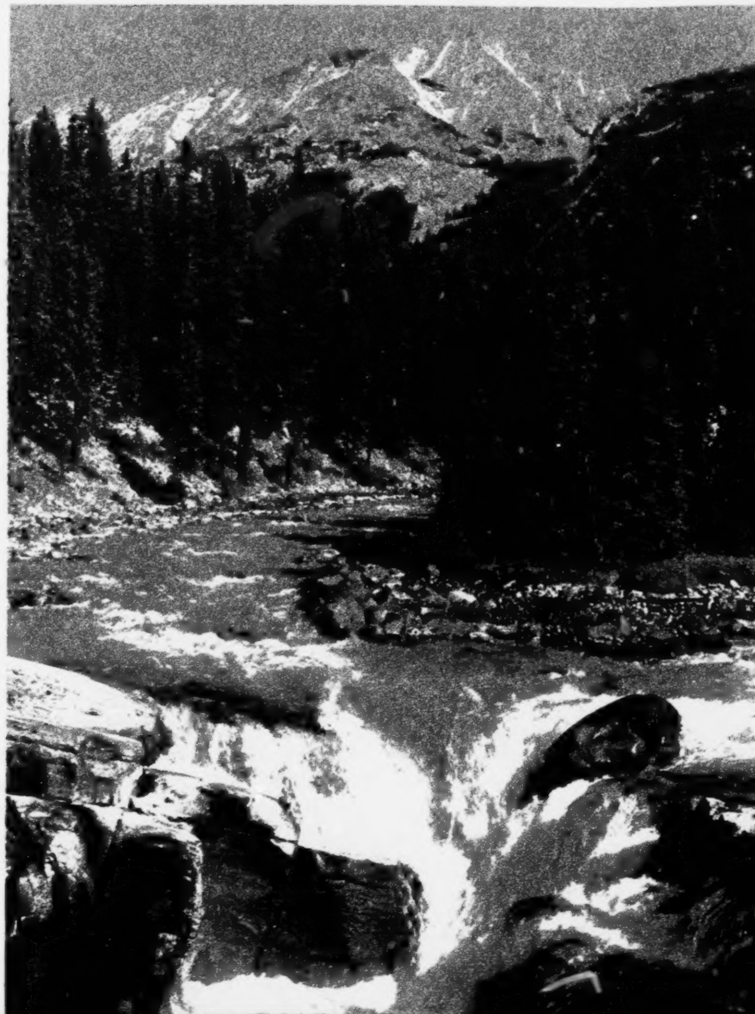
However, the nature of Canadian studies programs almost demands the development of materials at the local level if they are to be taught with the relevance they deserve. New provisions of the School Act encourage such local development and Canadian studies surely deserve priority locally. More school boards should accept this responsibility and it is suggested that the Alberta School Trustees' Association coordinate a province-wide development of local curriculum materials, both in Canadian studies and environmental education. Many of these materials could then be exchanged between districts, divisions and counties.

Higher education institutions must take action as well. Universities–especially the faculties of education–should give much more attention to the development of Canadian studies programs. While the disciplines that make up the social, biological and physical sciences tend to give good coverage to the Canadian perspective, it is difficult for each student to enroll in history, biology, geography, literature, sociology, political science and anthropology. A single course which thematically treats all of these viewpoints would be very valuable to the average student. Such an approach to Canadian studies material is prominent in the Alberta Academy program detailed in Section III.

The final concern noted by the Canada Studies Foundation is worthy of attention at all levels of schooling in Alberta. The commentary of Canadian writers, musicians and artists upon their Canadian environment deserves far more attention than it is accorded at present. Their commentary is a valid source of Canadian study and much of it is more exciting than what passes for the Canada saga in most current textbooks.

Canadian studies should be taught by teachers who know our country and are enthusiastic about their subject. Because of the shortcomings which Hodgett pointed out in 1968, but which existed much earlier than that, many of our teachers are themselves bored by Canadian history, civics and social studies. Still others trained outside the country know little or nothing of our heritage and life-style. Consequently, the inclusion of Canadian insights and illustrations are seldom brought to bear as much as they might be in teaching all subjects. Even many social studies teachers seem to prefer a juicy European revolution to the Riel Rebellion.

Canadian studies are ideally suited to problem solving and the inquiry approach. This is the approach most appropriate to the new Alberta curriculum. Given a better variety of resource materials, the necessary components are present in Alberta to mold exciting programs in multi-ethnic Canadian studies and to relate our country to the rest of the world–realistically and without chauvinism, futuristically and without embarrassment.



environmental education

In the face of rapid deterioration of earth's interlocked life-support systems, we will need to explore quickly and accurately all the probabilities for survival–both to sustain life and to give it meaning. Environmental education, therefore, must dominate our future horizon–if there is to be a future horizon.

Our programs must present a valuing framework that helps learners clarify their concepts and attitudes about the interrelatedness of man, his culture and his biophysical surroundings. Learners must also have the opportunity to make practice decisions so as to formulate their own code of behavior about issues concerning environmental quality.

Environmental education obviously calls for an interdisciplinary approach. Just as ecology permeates our entire living pattern, so should it permeate our entire learning pattern. In fact, to separate environmental education from other education would be the ultimate in irony, treating its dynamic wholeness as though it were a specialized fragment–an optional course to be chosen from among Bookkeeping 10, Drama 11 and Metalwork 12. There is no option when it comes to environmental education. Hence, it should be integrated with all, or nearly all, of the subjects taught in our schools. Its application to the social studies and applied sciences is obvious, but some may feel other subjects do not contain coat-hooks for the ecological cloak. But can business courses avoid attention to our throw-away economy? Can physical education forget the contaminants inhaled during its deep breathing exercises? Can literature sidestep *Walden Pond, The Greening of America,* or T. S. Eliot's *The Wasteland?* And can the theoretical sciences ignore Buckminster Fuller any longer?

While environmental education should be integrated with other studies, this does not mean that there cannot be special activities with a pure environmental focus. It is just as feasible to invade other disciplines from the marshalling point of ecology as it is to integrate ecology into the other disciplines. One valuable strategy would be to have special environmental mini-courses offered in our schools, colleges, institutes and universities during the summer. Given Alberta's particular climate, summer offers the best opportunity for field study, and once modification of the school year is accomplished, activities of this kind would be practical as well as popular.

Environmental education should commence at an early age. Many of its basic concepts can be learned easily by young children. For instance, a child can soon appreciate that water is necessary for life and that it is an important natural resource. At a later stage he can learn about the water cycle, the evolutionary stages of streams, the distribution of water upon the earth, the patterns of ocean currents, the influence of water on the distribution of communities, and the effect of pollution on this distribution. With this knowledge at hand, the young adult will be prepared to contribute to society's decisions respecting the availability and quality of water.

Similar learning hierarchies can be developed so that young children may profit from early exposure to the environmental concepts of location, atmosphere, land-forms, soils and minerals, plants and animals, people, social organization, economics and ethics. Some excellent work in this area has already been completed by the International Union for Conservation of Nature and Natural Resources, headquartered in Switzerland.

The newly formed Department of the Environment of the provincial government has recognized education as its major challenge. It is in an excellent position to provide valuable learning resources to our institutions of schooling and has already begun working with the Department of Education in this respect. However, so far there are no indications of any substantial funds being invested in environmental learning materials by either department. The concept of preventive maintenance cannot be accomplished without such substantial investments.

contention

The significance of the foregoing discussion about content may be lost because of its generality and familiarity. It does not speak, for example, to the specific need to institute a long-range transitional program to educate Albertans toward the everyday use of the metric system of weights and measures. Nor does it enter into controversy surrounding the new math which many say is excellent preparation for computer technology and engineering, but of little value in studying social problems, assessing insurance rates or planning home budgets. Topics like these were omitted simply because the Commission sensed that most Albertans were interested in much broader questions.

Endorsation of problem solving, communication, valuing, life experience, leisure and creativity, drug education, languages, Canadian studies and environmental education is not new. Indeed, a careful reader might well point out that many of these content proposals are centuries old, and that most of them already appear in the written philosophy of various institutions for schooling. It has been repeatedly established,

however, that there is often a sizable difference between the content that is espoused and that which is practiced. Our younger generation is especially critical of such program hypocrisy.

If the ideas put forth about content are not new enough and not specific enough, teethe on this: we can no longer afford the kind of schooling that takes the learner into the future with his gaze fixed steadfastly on the past—not if he is to avoid a collision of monstrous consequences. Marshall McLuhan is dead right when he identifies schooling's rear-view mirror obsession—in fact, this may be the most important of all his observations. Somehow the content of our programs must be redirected towards helping individuals gain a perspective on the next society and the now—not the nether. The present content of schooling may not be dumb, but it is more than a little deaf—and almost totally blind.

teachers

It is in the classroom—however defined—that the process of education comes to life. The teacher, to justify his existence, must be more skilled than the learner in translating a desired program into a specific learning experience. Although planning groups at other levels may have decided major goals, set objectives, identified content and recommended teaching approaches, they have not and cannot apply all this to the continuous daily interaction between learners and their teachers. Consequently, many specific decisions about when, how, and what to teach must always be left to the individual teacher. For this reason, the quality of the teacher's daily activities with learners is the crux of process.

Acknowledgment of the teacher's critical role carries with it the clear implication that he must count in some way with learners. He must be the kind of person whose yes, no, and maybe really matters to them. They must see him as an insight sharpener, not a housekeeper. It is the learners who must take the teacher seriously, not just parents and professional colleagues. Some teachers can be pretty unimpressive in their casual relationships with others, but still be VIP's to their students. Ideally, of course, the teacher will be all the things expected of the perfect professional; but without teaching stature, he has no profession at all.

An old political saw suggests that it does not matter what the newspapers say about you as long as they spell your name correctly. Both teachers and politicians would prefer to be loved, but they will settle for respect-or even power. But to be disregarded is their death knell.

professionalization

The brutal fact is that what really happens in conventional schooling takes place after the teacher closes the classroom door and sets about the task of dealing with learners. No other single factor has made schooling so insular to change as this one. Not only must we open the doors of classrooms, but the walls as well.

This jealously guarded traditional right to close the door and dictate the learning transaction has endowed teachers at all levels in the educational structure with a lock on learning which they are not likely to surrender with grace. In the past, under a dominantly institutional mode of program operation, it granted them immunity from the imposition of programs they found disagreeable–whether on the grounds of teaching philosophy or the law of least effort. People from the business world find this incredible.

The closed classroom door has thus allowed sanctuary from the administrative overkill that marks some of our institutions for schooling. But often the gown of academic freedom served as a cloak to cover procrastination or unilateral rejection of needed change in the learning transaction. It is at this level that the professionalization of education has helped to turn learning into a commodity instead of an activity.

Reinforced by the power to withhold the learning credential, teachers have sometimes capitalized on their exclusive franchise by fixing the price of the learning product—and part of the price was privacy and absolute control. Illich sees the exercise of this control as the hidden program of schooling. It is this hidden program which perpetuates the social myth that education is valuable only when it is acquired in school; that the degree of success enjoyed by an individual in society depends upon the amount of learning he consumes; and that learning about the world is more valuable than learning from the world.

The role of teaching, particularly at higher education levels, has become tantamount to a private business of learned discourse and credential bestowal. Professors and instructors have come to regard themselves as independent professionals responsible solely to their guilds rather than to the institutions that pay their salaries and provide their reason for existence. The concept of teaching as a public service is disappearing.

The hidden program is becoming pervasive in basic education. The matriculation requirements imposed on it by higher education have resulted in program organization on the model of academic specialities, especially at the secondary level. The teachers at this level feel they must conform to the dictates of the Grade XII external examinations if they are to be judged successful. The classroom door is kept shut. Passive learners listen to teachers. They read assigned books. They write established answers to established questions about the stuff of learning. They matriculate.

It is in higher education, though, that the professionalization of teaching-learning becomes complete. Faculties compartmentalize learning, the learner, and the teacher. The undergraduate becomes the apprentice to the guild, seeking the guild's credential. Only as a graduate student can he really participate in the life of the institution, and enter into a genuine learning transaction with his teachers. And by then, he too has been professionalized.

Without strong external intervention in the years ahead, the entrenchment of mindless professionalism will likely curtail the introduction of any significant changes in the process of education. Professionalism will hinder especially any widespread introduction of technology that is intended to make the process of education less labor-intensive.

We are now entering a new phase of instructional technology made possible by the advent of the computer. The unique contribution of the computer is that it clearly needs little, if any, intervention on the part of the teacher, who now becomes a learning diagnostician and guide. In the past, most of our electronic and programmed teaching methods have been subverted by teachers who insist that these methods are only aids–to be used sparingly both by the true professional and the unsupervised learner. Teachers are going to have considerable trouble selling that bill of goods with computer-assisted instruction.

A central problem, then, in the use of the new technology and many of the other learning resources described in Section VI is to develop a team-teaching situation, with the human teacher and the learning system each performing the role most appropriate.

role

Earlier it was suggested that, in the final analysis, it is the learner who is responsible for assuring the relevance of the process of education. In this sense relevance is a demand for connections and for seeing them between what one undergoes and what one comprehends. Most of all, it is a request to participate in the celebration of whatever it is that we call the human adventure. It is the child's, "Why are we taking this question?" raised unsteadily, but to philosophic heights. It is a request for freedom, for self-definition. It is a brave expression of the urge to be forever learning, to face tomorrow with open eyes and simple wonder, unafraid to be afraid before the perplexities and inexorable finiteness of life.

By this definition, then, relevance is concerned with the human quest—man in search of himself. For education, relevance is the connection between man's quest and the school's efforts on his behalf. The learner's cry for relevance is a cry for the school to show feeling—towards his self, his emotions, his human condition: to educate for empathy, compassion, trust, for self-growth and self-esteem; for tolerance; for acknowledgment of error; for patience.

To anyone whose senses are operative, it should be apparent that the cry for relevance is also a call for dramatic change in teacher behavior at all phases of recurrent education. That change would substantially alter both the methods and the personal roles of the professional.

From a methods' viewpoint, relevance implies a shift in teaching emphasis from explaining to evoking—from pouring in to teasing out. This means helping each student to respond to information and ideas in a self-meaningful way, not as a parrot. This means guiding each student in his search for bearings which apply to real-life interaction and the ever-widening horizons of experience, sensitivity, community and knowledge. In short, this means assisting students to make that vital connection between learning and living.

It is the teacher's obligation to define his work and to account for its contribution to human self-realization and self-transcendence. Self-realization is of great concern to all learners, particularly adolescents. However, the self is too small an entity for perpetual satisfaction. There will be, therefore, a growing interest in ways of transcending the limitations of the personal ego. Evocative teaching can integrate these twin drives so that they become the dynamic of the learning process.

Expository teaching can be useful. Evocative teaching can be impelling. Moreover, its practice guarantees that the live teacher will remain essential, even in a technetronic society. Yet it appears to be an oft-neglected aspect of teaching—an almost rare skill.

Why? Is it because the dominant day-to-day objective of our institutions for schooling is to impart knowledge and facts, and little else? Is it a consequence of the kinds of preservice and in-service preparation programs available to those who teach? Has it been smothered by the production line job description and the merit-sapping salary structure which characterize teaching? Or is it simply unrealistic to expect teachers to combine the skill of evocation with that of exposition?

Regardless of the reason, if teachers do not develop evocative skills, they will be contributing to the suicide of their profession. Our mass production of unit-teachers for nursery through graduate schools has created a host of assembly-line workers who, like their counterparts in industry, will soon be automated out of existence. Who then will be ready and competent to undertake the so-called human dimension of teaching that is the *raison d'être* of the profession.

The ascendancy of relevance also raises questions about the traditional social-personal role of the teacher. Traditionally a teacher, particularly in early and basic education, has been thought of as a relatively passive, neutral device who converts the inherited culture into bite-size chunks suitable to the appetites of good little boys and girls. Teachers have been surrounded by all sorts of spoken and unspoken sanctions so that their personal beliefs and behaviors conform, or appear to conform, with accepted conventions. Some see these restrictions as part of their professional responsibility; others feel they could be more effective professionally if their own personalities could show through. Both groups should be accommodated. But the basic criterion must be personal honesty. Students can spot a hypocrite a mile away.

This passive, neutral model can no longer be viewed as acceptable for the future. Teachers must be allowed their full humanity. And they must be able to live the life-style which they counsel for their students—with verve if they wish to, and even with human frailty.

Neutrality is no longer appropriate to the teacher's calling. Indeed, a neutral teacher can only miseducate the student about his coming world of turmoil, conflict and confusion. Living in that world will require commitment and the courage to trust, to experiment, and to live with crises of conscience. If these are the characteristics to be cultivated in our young, then they cannot be cultivated with words or pictures or theory or exhortation. The only learning model that can accomplish this cultivation is the model of one human being relating to another.

All of this, of course, assumes that the teacher is a member of that inner circle possessing knowledge about the best way to learn. The direction of learning is dependent, however, upon feedback from the learners. Therefore, teacher and learner must form a deep and genuine alliance, each drawing strength from the other. This will be a non-judgmental alliance based on mutual enlightenment, candor, trust, respect—and even love—not the teacher-dominated, pseudo-alliance that is a common masquerade in higher education.

This alliance must be maintained—and it must grow—openly, honestly, with simple dignity and a warm human bond. Teachers in early and basic education must understand that young people commonly become highly emotional during learning. Peevishness and even outrage, or unrestrained joy, are natural concomitants to learning. They need to be acknowledged and coped with, but they must not result in hostility. The teacher should be sensitive to the learner's slightest sign of frustration—and psychologically open when he deals with it.

Since adaptability is a function of the healthy personality, we must do all that we can to help teachers and learners enjoy the psychological security that allows risk-taking and comfort in the presence of uncertainty. This means that before teacher and learner can form the type of alliance suggested, each must have administrative support. There have been tragic instances in this province where good teachers—even superb teachers—have been cut down to size by administrators who simply did not understand, or refused to support, non-traditional teaching methods. Students, too, have been punished because of their unconventional learning methods.

The concept of the teacher holding forth at the front of the classroom has been dead for some time. The idea of a teacher who conveys information and answers is now dying. Technology is beginning to perform this data function quite admirably. Teachers are beginning to realize that their main job begins after the learner has processed the information. That is when insights are verified, generalizations are tested, perceptions are expanded and knowledge becomes wisdom. And to accomplish this effectively the teacher will have to practice a pedagogy of restraint, doing more guiding and assisting and less directing.

The pedagogy of restraint obligates the teacher to two masters, not one: he must both serve society's surrogate, the institution, and honor each learner's private agenda. The learner's private agenda may be well drawn and relevant to his needs, or it may require counselling development. His agenda may lend itself to any of the three modes of instruction, but if it best suits Mode II or III then the teacher and learner should mutually develop performance objectives for that agenda. If the learner is of juvenile age, the performance objectives should be sent to his parents at the beginning of study. The teacher-learner-parent alliance is then formed and pursued. The learner is evaluated on the basis of his performance objectives. In most instances, the learner will be fully aware of his day-to-day progress towards these objectives. When he is not, he should participate in the evaluation.

When this report talks about the changing role of the teacher, that is what it means. As a beginning step, teachers should become familiar with all three modes of instruction and should be specialists in at least one.

methods

The basic methods credo of the future must be that the learner learns by doing. The strategies and tactics of the teacher are, then, to develop learning environments in which the learner has the fullest opportunity to explore—intellectually, culturally, socially and physically; to seek orderly explanations—conceptualizing the events and objects in his environment as it is, and as it ought to be; and to test his explanations—both in real and vicarious ways.

To explore, to seek, to test are the essential ingredients of method and the learning transaction. But it is the learner who is to explore, to seek, to test; and it is the teacher whose methods must be formed by these objectives. The teacher must coordinate the effects of various learning environments upon particular learners or types of learners. The issue in method is not which environment is best, but rather which environment is best for a particular person in order to produce a desired change. Given learners of differing personalities, abilities or whatever, highly structured environments produce far different changes from, say, highly permissive environments—and this phenomenon is well documented. It is time we used it.

What might be called the natural way to learn is from direct experience and action. If the learner wants to understand an engine he may take one apart and put it back together again. Since the engine is an orderly learning environment, he will learn from experience. But not all environments are orderly. If a learner takes apart a pile of gravel and tries to put it back together again, he will likely learn nothing from the experience except the meaning of senseless labor.

Traditional schooling is unnatural in the sense that there is little direct experience and a great deal of vicarious experience. That is, experience is transmitted through words and pictures-mostly words. When vicarious learning works, it is a tremendous short cut. When it does not work, or when it cannot be transferred, or when it is not worth transferring, it is a waste of time.

Vicarious learning, especially with words, is least successful with young children because they are unskilled in verbal and visual abstractions—although television may be changing this in part. This suggests two strategies: teach verbal skills early so that vicarious learning will be more successful; teach by direct, ordered experience.

There is evidence that learning by action and experience is quite important for all persons. Evidence abounds, of course, in the learning of vocational skills by this method—the whole notion of craft guilds and apprenticeship was based upon it. Recently, as well, there have been some very successful uses of concrete experience in the teaching of abstract concepts. Manipulative materials used in arithmetic are an example. Process-oriented learning, such as the teaching of literature through film-making and television production, is another example.

In Pittsburgh, O. K. Moore has designed special clarifying environments in which children from ages three to six can play a learning game that teaches reading, typing, spelling and the taking of dictation. They do so, with remarkable success, at the keyboard of a talking typewriter that permits free exploration in a responsive environment with immediate learning reinforcement. Participation is completely voluntary and occupies only a half hour a day. Children are invited to attend—by another child—and no invitation has ever been declined. Drop-outs are unknown.

Still another approach in experience-learning is the simulated learning environment. Here the learner is given simulated conditions and data that will react to manipulation in certain predictable ways. He then tests his solutions. While this approach began in business schools, it is now used at all levels of education down to the primary grades.

While learning by doing sounds like a remarkably simple teaching method, in truth our teachers are inexperienced in this method and we have few materials adaptable to it. Those promoting problem-solving methods are constantly frustrated by teachers who only want to give answers. Individual learning inquiry? No. Individuals learning in choirs.

Thus, if present methods and associated administrative and teacher training practices persist, much of what is advocated in this report will never happen. A recent Alberta study clearly shows that very few students in Alberta's basic education system are being given the opportunity to explore, to seek and to test. The situation is not much better in our institutions for higher and further education. What is now going on in the province's classrooms is massive testimony to the utter neglect of the learner's innate ability to solve problems. The objectives we apparently seem to pursue most are those of repetition, replication, and obedience to traditional procedure.

This is not to say that many sincere teachers—from nursery to graduate school—do not emphasize the process of inquiry as central to their teaching. They do indeed; they make the point again and again—in lecture.

The lecture presently has a very limited value in schooling, and that value is likely to be lessened in the future. Lectures can be useful as a prologue to teaching. They can set forth conditions for the learning environment. They can–when well done–provide excellent motivation for learning. They can even provide a welcome break, and some large group reinforcement during learning. But it is doubtful that students learn very much during lectures. Indeed, learning has been defined as what the students do when the teacher stops talking. Still, the lecture will have some continuing value–at least until technology catches up with it.

Generally we know that small group work, individual work, discussion, tutorials, laboratory work, learning games, demonstrations and multi-sensory experience yield better results than do the lecture, question-answer, seat work, recitation, note-taking and non-integrated audio-visual materials. We also know that varying class size to fit the unique characteristics of particular methods makes good sense. Obviously, the styles of educational activity that lead to high achievement are the very ones that are most difficult to use in large classes.

Although the particular method appropriate for learning may vary with the kinds of objectives sought, there are certain guidelines that appear to be applicable to the selection of all methods, whatever their objectives may be. These may be identified for learners of any age as follows:

Criterion of Objective: the learner must have experiences that give him the opportunity to practice the kind of behavior implied by the objective.

Criterion of Effect: the learner must obtain satisfaction from carrying on the kind of behavior implied by the objective.

Criterion of Readiness: the responses desired in the experience must be within the range of performance of the learners involved.

Criterion of Economy: priority should be given to those experiences that are likely to lead to the attainment of multiple ends.

Criterion of Feasibility: when many means are available for attaining the same end, those experiences should be chosen that are most closely related to the interests of the learners and to the interests and competence of the teacher.

Criterion of Futurity: the experience must have implications for the future life of the learner .

Additionally, certain factors integral to method, such as technology, time, and teaching strategies in higher education, warrant special attention.

technology

Future teaching methods will undergo radical change through the employment of electronic technology–in its communications aspect, in its computer aspect and in its process aspect.

Communications technology will create new ways of teaching and new demands upon the teacher. Communication allows each individual to experience the nervous systems of others, and communications technology is linking each of us to millions of nervous systems where, not too long ago, we experienced bare hundreds. Knowledge is being freed. Without appropriate professional credentials people used to be barred, and in many places still are, from certain sections of university and public libraries–not just barred from erotica, or nuclear physics or military science, but from medical, legal and even political knowledge as well. The electronic media are changing all that.

This new access has important implications for teaching methods. As knowledge becomes free, but not necessarily the credentials to practice it, the management of its access becomes increasingly important. Teachers, as guides to where knowledge can be found, will have to become proficient in the practice of communications methodology. No doubt a communications guidance method of teaching will develop–perhaps as an extension of present librarianship. Without such assistance, the innocent learner is likely to collapse under the weight of information overload.

Computer technology, as is shown in the learning resources sub-section on page 259, has brought us to the doorstep of feasible computer assisted instruction. The computer is a tireless, relentless, evaluating teacher that has several avenues of instruction at its disposal: sound, sight and touch. Its efficiency characteristics will put any teacher to shame who is foolish enough to compete. But it also has the potential to free the teacher from a host of routine directing and record-keeping duties, which add little to either the learning process or the humanizing process.

This means the human teacher will be able to concentrate on truly human things. Anyone who has ever tried to be truly human to 25 people for five hours at a stretch will know how utterly exhausting that task can be. Under these circumstances we are going to have to re-think the instructional day and someone is going to have to develop the human method of teaching. That sounds ridiculous now, but it is not likely to in 15 years.

Low cost, good quality media production is now at the stage where its process methods can be introduced into the classroom. In essence, this means that different people will be pushing the symbolic green and red buttons found on film and television cameras, audio and video tape recorders, computers, editing machines and production consoles. At the present time, a mystique surrounds this production equipment and only those who have been baptized by Alexander Graham Bell are allowed to use it.

But Marshall McLuhan has offered confirmation to all learners who wish to enter the media process. Basically, learners must be allowed into the media production process for two reasons. First, because they learn so much, both intellectually and socially–as anyone who has been on the production team of a movie, television episode or computer program will attest. Second, because if mass communications really do distort and brutalize society, people who have experience at pushing the media's green and red buttons are less likely to be intimidated. In the process method, the medium is the learning message; the finished program is of secondary importance.

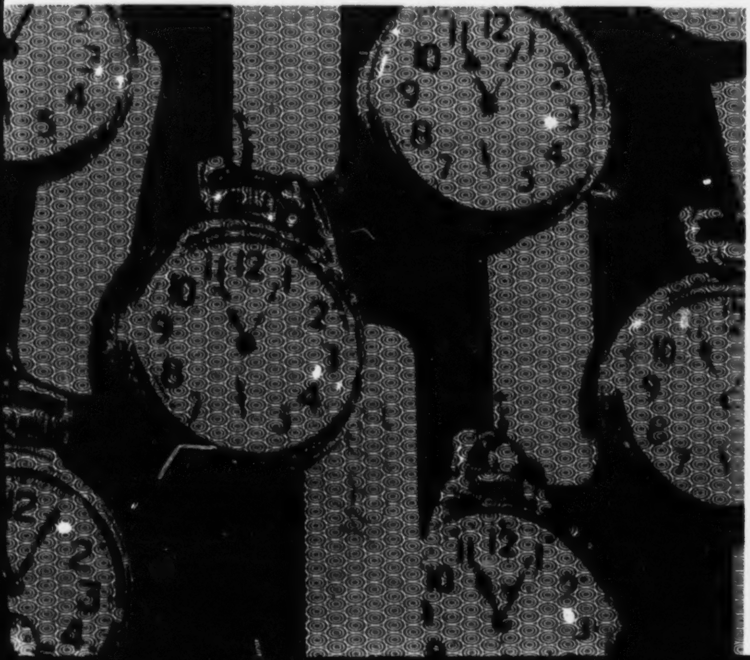
time

Some of our most persistent myths have to do with time and its relation to learning. The world is supposed to begin formal learning at age six, although some countries cheat a little. We learn from 8:45 a.m. to 3:30 p.m., 190-200 days a year, for 12 years–all at no extra cost. Each subject is accorded X number of minutes per week. Schools operate 10 months a year. It takes 18 years to become a dentist, 16 years to become a teacher, 12 years to become a policeman, and nine years to become a drop-out. Learning too much, too fast is bad for us, and learning too little, too slowly serves us right for not paying attention. Learning just the right amount, in the right time, is nice–for someone else's children–but ours must do better than that.

There is nothing sacred about any of these times. While there is some evidence to support certain of these time bases, there is also strong evidence upon which all can be questioned. The whole concept of maturation for learning has been shown to have fewer boundaries than we ever imagined. Intensive learning over a longer school day and a longer school year, properly motivated, can be very productive. Year-round schools and night-shift schools can be effectively operated. Twelve-year programs have been successfully compressed into 10 or 11 years–or extended to 13. The whole idea of a normal learning speed has been upset by continuous progress plans.

While some of these time bases are convenient to parents, institutional staff, the labor market and holiday patterns, it is tempting to ask–"which has adapted to which?" Generally, we continue with them because that is what we have always done. In doing this we are really denying that much has changed in the last 100 years. Education tailors learning to available time instead of making time fit the variables of learning. Teachers develop their methods according to available time. Introduction: 10 minutes; seat work: 20 minutes; summary: seven minutes; clean-up:three minutes. Both time and methods must now be varied to suit learning. More learners operate on fast and/or slow time than on normal time, whatever that is. Normal learning time is like a stopped clock: fortunately it is right twice a day.

As noted when discussing school year reorganization, perhaps the most significant aspect of the computer and other learning technology with respect to education is that an altogether new kind of energy will be injected into the educational process. It is energy that has nothing to do with working hours, examination times, holiday times, or human convenience. Nor is the energy altered by the computer's absenteeism, health, mood or personality. Missed subjects will be recoverable; learning can proceed at any speed; discrimination against the learner would be impossible and time would become elastic.



The time-maturation interlock becomes increasingly mythical as students reach the senior levels of basic education and go on to higher education. Nowhere is it more fanciful than in the granting of degrees in higher education. The present time-bound degree structure works a considerable hardship on thousands of Alberta university students–as well as hundreds of thousands of taxpayers. If work expands to fill available time, then so does schooling. Similarly, the high cost of building, equipping, staffing and operating a university is directly related to the length of its degree programs.

In a recent report the Carnegie Commission has argued that a number of undergraduate degree programs in the United States can be immediately reduced by one year for many candidates, and eventually for most. The report also believes that time spent on the Ph.D., and the M.D. and D.D.S., can be reduced by one or two years without sacrificing quality. Some institutions are revamping their programs accordingly. Similarly, proposals for a two-year B.A. as the normal generalist qualification for entry into the world of work or study for the professions have been advanced in Britain.

But here in Alberta, we have actually increased the length of the B.A. and B.Sc. degrees for most students from three to four years in very recent times. Concurrently, certain professional faculties have dropped combined programs and are insisting on a degree for entrance. A notable example is Law. What was once a five-year program for many now takes most students seven years. Thus, with articles it will be eight years instead of six before a person can be licensed to practice. Similarly, the road to becoming a chartered accountant is now impeded by a degree barricade, usually a four-year program in business administration.

The Alberta public, by its silence, has apparently sanctioned the extension of these programs. Meanwhile, the weight of current thought opposes such extensions. Why? Because elsewhere people recognize the serious and unjustifiable social and economic consequences of such moves: high education taxes, class discrimination, and occupational protectivism. Furthermore, the concept of recurrent education presupposes that life is a continuing process of full and part-time study interposed by work and rest periods; a degree is, therefore, only an interim credential that starts to die the moment it is born. The improvement of professional qualifications occurs after the degree, not before it.

Hopefully, various faculties and schools in our universities, with the backing of appropriate professional organizations, will immediately begin to reduce the time requirements for their programs. If the universities do not do this voluntarily, then appropriate legislative and executive action should be taken by the provincial government in the public interest. Either way, it is obvious that the adoption of new time lines by these institutions will also require new teaching methods that meet these time lines.

If we consider free public education one of the major benefits society bestows upon its members, then many adults have the right to ask: "Yes, but what have you done for me lately?" Why should this benefit be concentrated on the years from five to 18? Such a policy is shameful given the mounting need for further education. Ultimately there must be a kind of national educational bank or fund that credits each person with, say, 15 years of freely chosen schooling at public expense. One of the conditions of withdrawal should be that no one may use more than 12 years consecutively. Such a condition would help assure attainment of the goals of recurrent education. Indeed, if the educational bank were combined with the notion that all degrees, like passports, expired at the end of 10 years, we would have a built-in guarantee against personal and socio-economic obsolescence.

Such ideas as the foregoing must be exercised so that schooling is ripped loose from its obsolete time bases. Only then can we make learning an opportunity to be chosen for personal development, rather than a social necessity to be endured as a means of access to consumer pleasures.

teaching strategies in higher education

Nowhere in our system of schooling will the development of responsive learning environments be more traumatic than in higher education. And perhaps nowhere is it more necessary. While there are some very notable exceptions, university teaching methods, particularly in undergraduate studies, are disagreeably uniform and tedious. Variable learning environments must be implemented-not only because they cure monotony but also because they allow fit. The uniform learning environment is not much different than most other uniforms; it tends to be either too tight or too loose to suit individual learners and topics. The ill-fitting, tweedy methods of academia are highly resistant to all new tailors. Some sharp needles will be required.

There are several broad teaching strategies that might be employed to bring variable learning environments to higher education. They merit careful scrutiny in the decade ahead by our colleges, institutes and universities. One of these is to replace, in certain instances, programs with temporary **learning alliances.**

The learning alliance, like the program, would come in many different forms, could be easily established, and would be highly flexible. It would monitor the time of those students enrolled in its broadly designed subjects; it would emphasize collective planning and cooperative teaching. However, unlike most current programs, the learning alliance would have a built-in capacity for rejuvenation. Intended to live many lives, the alliance would generate diverse studies and numerous incarnations. And it would allow greater opportunity for the individual teacher-student alliances called for in the introduction of this sub-section on methods.

Under the alliance concept, any group of three or more professors or instructors could band together to form a teaching company. This company would take out a short-term lease, and proceed to explore a particular learning property. Ideally, the company will be rich in human capital and the property will contain the ore of many disciplines. There might be many such alliances within a faculty; each exploring different properties, using different methods, having different articles of association. Exploration as a member of such a party will be stimulating. Neither explorers nor professors should be satisfied in a permanent camp.

Traditional programs could easily co-exist with these alliances. The call here is for diversity, not discrimination. Many students and professors will always prefer the institutional mode, and will perform nobly in uniform, traditional learning environments. But the alliance concept allows innovation to be easily implemented, with a minimum of expense and institutional commitment. Some of these alliances may even blossom into the proprietary learning clinics envisioned in Section III.

Two teaching strategies used with some success at the University of Lethbridge could also be more widely applied: independent study and the colloquium.

To offset one of the disadvantages of a small university—its limited course offerings—students at Lethbridge are encouraged to embark on independent studies. The students select, in consultation with any professor, a topic which interests them. It may be an interdisciplinary topic, or it may be a course that is not offered that year. The professor's job is to guide the study, help in selecting a reading list, set a method of evaluation best suited to the particular study, and act as tutor whenever necessary. Independent study need

not correspond to any university timetable. The student is granted credit during whichever semester his study is completed.

Colloquium study leading to a bachelor of science or arts degree is an extension of the independent study concept. It is organized after the pattern of a master's degree program; the student seeks entry through a coordinator of colloquium studies. A committee is established to oversee the study and to evaluate the candidate's progress when the study is completed. Some form of written thesis, together with oral and/or written exams would form at least part of this evaluation process. The colloquium student may audit any course he feels would benefit his study. There is also provision for a student to receive credit for the work completed in his colloquium study if, after some time in the program, he feels he is better suited to the regular program of study.

There seems to be no technical reason why such programs could not be offered at a larger university or in colleges and institutes. Because the programs depend heavily upon the tutorial method of teaching, the full cooperation and enthusiasm of the teaching staff would be required. Perhaps it is easier to do creative planning at a new institution such as Lethbridge. The conservativeness of an older institution might make these kinds of changes more difficult. Size may also play a part since it is not easy to generate the enthusiasm and cooperation required for such programs from a large and diversified staff. But it would be worth the effort.

The cluster college concept, of which Trent University, Trinity College in the University of Toronto, and to some extent the modules of Athabasca University are examples, provides another alternative to present methods of organizing learning. This relatively place-bound approach emphasizes learning and living together for both resident and non-resident students. The college or house remains an integral part of the institution, but with a sufficient degree of autonomy to develop its own sense of community.

In this kind of atmosphere the faculty provides the real basis for a meaningful higher education experience. The academic staff are free to be consistent with their personal teaching goals. House or college systems have generally recognized the need to hire staff whose personal goals are consistent with the purpose of the house. Ordinarily, academic staff in the multiversity are hired for a variety of abilities and they are required to play a more diverse role within that structure. The staff-to-student ratios may, in fact, be the same in the house as they are in the multiversity. But, due to the nature of each institution, staff-to-student contact is greater in the house system.

The increase of staff-student interaction at the beginning of higher education should be a priority undertaking for all institutions. There is, and will be, a need to involve first-year students in some small group association if they are to develop as whole persons in the institutional setting. Such a development is not limited to students. Staff-student and student-student rapport is vital to the creation of a sense of community. The staff is in a position to provide leadership for, and to benefit from, this interaction through such strategies as: a student adviser program, which would assure each first year student personal contact with at least one staff member; a first year class of seminar size aimed at campus orientation and the acquisition of situational management skills; a first year project group for independent study programs, allowing each freshman the opportunity to pursue at least one topic in the way described under the University of Lethbridge independent study plan.

The introduction of a variety of teaching strategies into higher education, when coupled with other propositions in this report, could do much to improve the quality of teaching in higher education in the next decade. While our colleges, institutes and universities assert that they must protect the student from his own lack of wisdom, such paternalism is often indistinguishable from exploitation. It is easier–and often more satisfying and less threatening—to protect innocence than it is to nourish autonomy. But students are becoming restless; they form underground classes, aided and abetted in their learning by junior staff members; soon the ivory tower becomes an ivory foxhole.

In the past, paternalism has been widely accepted, but today it is not. If the value-shifts forecast in Section I materialize, such a stance will be intolerable in the future. Should these value-shifts be interrupted by man's desire to practice a new technology of human behavior–such as Skinner has called for in *Beyond Freedom and Dignity,* then present paternalistic practices are still doomed. Why? Because they are so amateurish.

evaluation

Almost from its inception the work of the Commission has been influenced by one fundamental observation: the traditional system of marking, examining, grading, credit granting and advancement is not only inadequate but highly distorting. It subverts good teaching, obstructs learning, misleads parents and is abused by employers, other educational institutions and the learners themselves.

Evaluation presumes an objective standard–something against which progress can be measured. Learners imagine there is some sort of standard toward which they are working but seldom find out what it is; nor do their parents. Employers assume that the learner's credentials denote achievement of that standard. Teachers know that, compared with our present standards, the origin of a foot as anything from a size five to a size 15 was remarkably precise. Presently, to find out how far a learner has progressed, educators consult a series of astrological charts dealing with normal distribution. A more sophisticated technique is to use such horoscopes both before and after exposure to treatment.

In the future, we must establish objectives that can be measured–not by comparing one learner against another but by comparing each learner against his chosen or imposed objective. More and more teachers are beginning to use such objectives as the basis of evaluation. In certain subjects, where their application is more obvious, instructional objectives have been used successfully from the beginning. The objective of first year typing can be stated as 25 words a minute with two errors, and everyone knows exactly what that means. But very few teachers are using the same technique with, say, history or poetry.

Many will say that specific behavioral objectives cannot be set for subjects like history and poetry. The objective of such courses, assert their teachers, is to understand, or to really understand, history and poetry. But if music can establish specific learning objectives, why cannot poetry? And if economics can establish them, why cannot history? Recent developments in evaluation suggest that specific behavioral objectives can be developed for all cognitive skills. It has been pointed out that once the learner knows what these objectives are, the teacher may not have much else to do.

Evaluation, to fulfill its fundamental and overridingly important role, must perform five basic functions. It must induce accurate self-evaluation; appraise all learning objectives; organize teaching and learning; generate records appropriate to various uses; simplify reliable decision-making at all levels of schooling.

Admittedly, this is perfection. We may never be able to perform all of these tasks with absolute precision. For instance, if evaluation is to appraise all learning objectives we must develop far better ways of measuring social and emotional growth in the affective domain. But at least the five objectives of evaluation have been stated in behavioral terms that allow us to recognize the challenge of the future.

As tomorrow unfolds, a high quality evaluation program will be our best assurance that the learner, the teacher and the educational system can constantly formulate valid objectives, plan their attainment, face successes and failures, and produce new plans as they are required.

And just how do we do this?

A good maxim to follow as we move into future evaluative practice is: let us not judge learners simply on what they know. To do so is to follow the philosophy of the quiz program. Rather, let learners be judged on what they can generate from what they know–how well they can bridge the gap between learning and thinking.

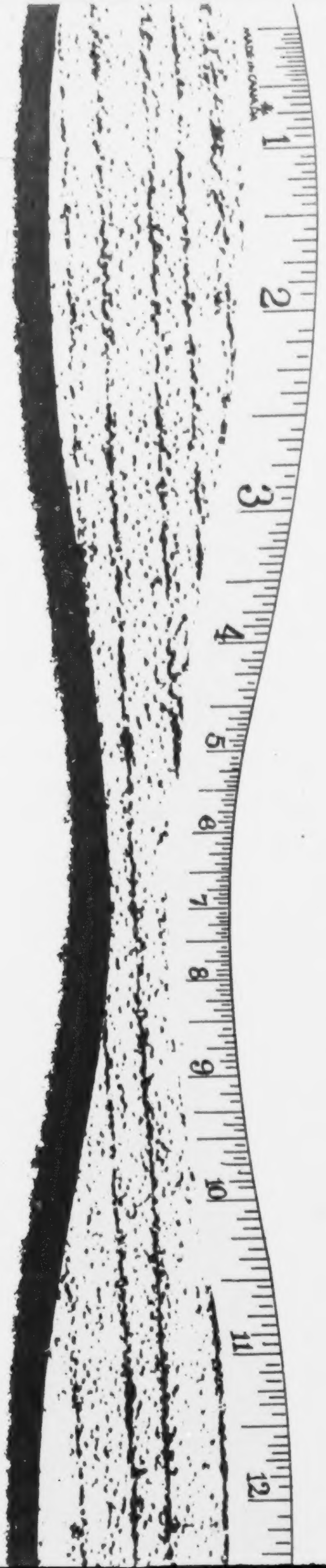
In the institutional mode, let the teacher, with some meaningful reference to the learner, develop specific instructional objectives for the learner. In the membership mode, let learners and teacher share equally in the establishment of such objectives. In the autonomous mode, let the learner fashion his own objectives with guidance from the teacher. When the objectives have been established, send them home to the parents and guardians of juvenile students–at the beginning of learning. When that learning phase is complete, report again to parents on whether or not these specific objectives were reached.

Let the learner have more say in when and how he will be evaluated. Let him keep his own cumulative record of achievement. Let evaluation wait upon the learner, not the learner wait upon evaluation. Let the evaluation serve to correct and improve subsequent learning and teaching. Let there be more learning by doing and more evaluation by doing what has been learned. Let learners be measured against a standard, not against one another. And let the standards be known–to everyone concerned with the educational enterprise.

And let those who say it cannot be done at least have the courage to try it first. And perhaps explain on what basis they have been assigning grades in the past–besides whimsy.

external examinations

The weight of the evidence before the Commission strongly endorses a change in role of the provincially developed Grade XII matriculation examinations–the departmentals as they are usually termed. They should be redesigned as power tests developed from a bank of questions and made available on a periodic but regular basis, perhaps two or three times a year. These power tests could be used by schools or school systems at their discretion much like the Grade IX departmental examinations were in recent years–merely as one check on progress. This would be a particularly valuable service to smaller senior schools wishing to provide a wider comparison of achievement than that provided by a very small student population in particular courses or programs. These power tests would also be available as a means of accrediting graduates from private schools. Such schools could then be subject to few regulations regarding staff, programs or materials.



Power tests could also be used by individual students as an appeal procedure. This would provide each learner with a safeguard against teacher and school estimates that could be influenced by factors other than achievement. Additionally, the Department of Education ought to use the results from such tests as bench-marks from which to periodically assess the levels of achievement in our schools. The proposed Education Council would probably find the results of these tests useful in performing its auditing function.

With the redesign of the present departmentals on a power test basis should come the automatic accreditation of every public and separate school in Alberta. These schools should have full powers of learner assessment and be allowed to recommend the learner's suitability for continuing studies. Putting it another way, final marks in all Grade XII courses or programs would be determined in generally the same manner as are final marks in Grade X and XI activities.

Earlier proposals regarding the reorganization of the school year and the development of the Alberta Academy point up the need for the foregoing changes. So do many of the concepts about process advanced earlier in this section of the report. But there are other reasons as well.

In every other instance, the school is the arbiter of student progress, from grade to grade, and at the senior high school level in some 350 of the approximately 362 courses offered. To imply incompetence after entrusting the school with our most valuable assets for 12 years seems rather strange, if not irrational. Moreover, the qualifications of the Alberta teaching force have improved greatly since the days when Grade XII departmental examinations were introduced. For example, from 1958 to 1969 the percentage of teachers with university degrees increased from 28.2 to 51.1. In 1970, 70.4 percent of beginning teachers were so qualified. Moreover, if the proposals made by the Commission about teacher education and certification in Section VI are acted upon the end of this decade will bring us perhaps the best qualified teaching force in Canada.

The evidence also shows that the greater the time lapse between basic and higher or further education, the lower the predictive value of test scores. Given the accelerating trend toward part-time studies leading to stretched-out diploma and degree programs, as well as the thrust of recurrent education, it is difficult, if not impossible, to justify the use of external examinations for predictive purposes alone.

It is also interesting and curious to observe that for some years Alberta universities have admitted students from other jurisdictions, most notably the United States, on the basis of school marks, while firmly refusing to treat Albertans in a like manner. This paradox, when coupled with the apparent success of mature student admission policies at the universities of Alberta, Calgary and Lethbridge, along with that of the open door policies of our colleges and institutes, demonstrates the artificiality of the matriculation examination score hurdle. Furthermore, the evidence also reveals that individual school assessments are just as good–and sometimes better –predictors of success in higher education.

But the most persuasive arguments for change in the role of external examinations are those that may be inferred from the introductory comments on evaluation. External examinations, as presently conceived and used, simply distort the whole process of schooling. They inhibit learners, restrict teachers, perpetuate corrosive and artificial subject and program distinctions, and subvert the more meaningful goals of education.

The Department of Education has already made what could be considered as a transitional move toward these suggestions. They have combined school recommendations and power test scores as a basis for determining final grades at the conclusion of basic education. Additionally, the department should establish a target date for total switch-over so that those concerned can prepare for their new responsibilities. In the meantime, school systems might be given the option to drop external examinations at an earlier date if they feel competent to do so.

It would be tragic, however, if school jurisdictions, singly or collectively, were to replace obligatory provincial examinations with local or regional examinations. A new tyranny would merely replace the old. And since it would not even be as well conceived, it would be even less endurable. It would be equally tragic if colleges, institutes and universities were allowed to administer their own entrance examinations. This would just replace the present matriculation examinations with a set of externals unlikely to be compatible with the learning objectives of the schools. The cure would be worse than the disease.

The emphasis on learner assessment in future must be on trusting cooperation. The public must trust learners, teachers and our institutions for schooling. Learners must trust teachers, and teachers must trust learners. And our institutions for schooling at various stages in the process of recurrent education must trust each other.

mastery learning

A most wasteful and destructive aspect of the present system for schooling is that set of expectations with which each teacher in basic and higher education begins a new term. Given the average class, teachers generally expect that about a third of their students will perform satisfactorily or better; another third will learn enough to pass, but not enough to be considered satisfactory, and the remaining third will fail or be allowed to squeak through. Students, long tuned to this procedure, expect the same. Materials are prepared accordingly. These pathetic expectations then become self-fulfilling prophecies as teacher, learner, materials and grading all join in reciprocal mediocrity.

The tragedy is that most students are perfectly able to master what we teach them if we go about it the right way. The problem is to find the right way. Some claim they have already found it and that 90 percent of their students can learn 90 percent of what they teach. Others acknowledge that this first group is on the right track but that, so far, mastery learning only works in highly structured situations and with basic skills. One of the greatest problems is that all educators do not agree on the meaning of the word mastery.

Mastery learning, as it is now perceived by Bloom and his disciples, does indeed promise nearly all students the successful and rewarding experiences now available to only a few. The concept can be traced back tó The Winnetka Plan of the '20's and programmed instruction of the '60's, and draws its strength from such famous names in education as Carroll, Bruner, Skinner and Goodlad.

Bloom has defined mastery in terms of a specific set of major objectives which the student can perform by the time a subject is completed. For this purpose, the subject is broken into a number of smaller units. Each unit has its own specific objectives as well, since mastery of the smaller units must precede mastery of the subject. Each unit is then taught with the aid of special feedback/correction procedures. Students are evaluated to see that they have achieved each unit's objectives. If they have not, corrective procedures are applied to help the student overcome his unit learning problems. The units are then put together sequentially to form the major objectives of subject mastery.

To the layman this will sound quite simple. In fact, it approximates what he has always understood schooling to be—learning to walk before you run. In practice, however, the process can be very difficult, especially if the subject is a complex one. The whole process hinges on evaluation of the learner's progress. That is why mastery learning is dealt with here instead of under teaching methods.

...and as far as the eye could se

Quite a number of successful mastery learning strategies have already been implemented in subjects ranging from arithmetic to philosophy to physics. Some 40 major projects have been researched, including one which enrolled 32,000 students. In general, 75 percent of the students enrolled in these projects achieved as well or better than the top 25 percent in conventional classes. Further, the mastery learning students showed markedly greater interest and satisfaction than the non-mastery students. Such dramatic outcomes are hard to ignore.

Mastery learning offers exciting possibilities. It is time for greater numbers of Alberta educators to join in its development. Its use is obvious in the institutional mode, but equally applicable to certain phases of the autonomous mode. Its greatest payoff is likely to occur in the teaching of the basic knowledge skills which everyone must exhibit before proceeding with abstract learning–skills common to the three R's.

This is not to say that mastery learning has no application in higher education. It does–though not as much as do the closely related but less systematic strategies described in the introduction to evaluation. The proposal is merely intended to underline the higher priority we must give childhood education in the immediate future, and mastery learning's more immediate application there.

credentialing

The demand for credentials that certify demonstrable educational attainment is expected to persist for some time. This report has already indicated that credentialing serves a dubious educational function. But until society as a whole comes to share that view, we must give the learner his passport in a more or less conventional manner. Even if we could bring enlightenment to our own province, conventional credentials would still be required nationally and internationally.

This means that the Department of Education should continue to issue a diploma certifying satisfactory completion of basic education. It could do this at the request of the student and would base its decision in nearly all instances on his school's recommendation. The department should, however, grant a diploma on the basis of its power test scores alone, should the individual student request this. Also, it should continue to award the Adult Equivalency Diploma using criteria at least as flexible as those now in use. These diplomas, however earned, should become the currency for admission to higher or further education. Certainly they will continue to be used as a screening device by prospective employers.

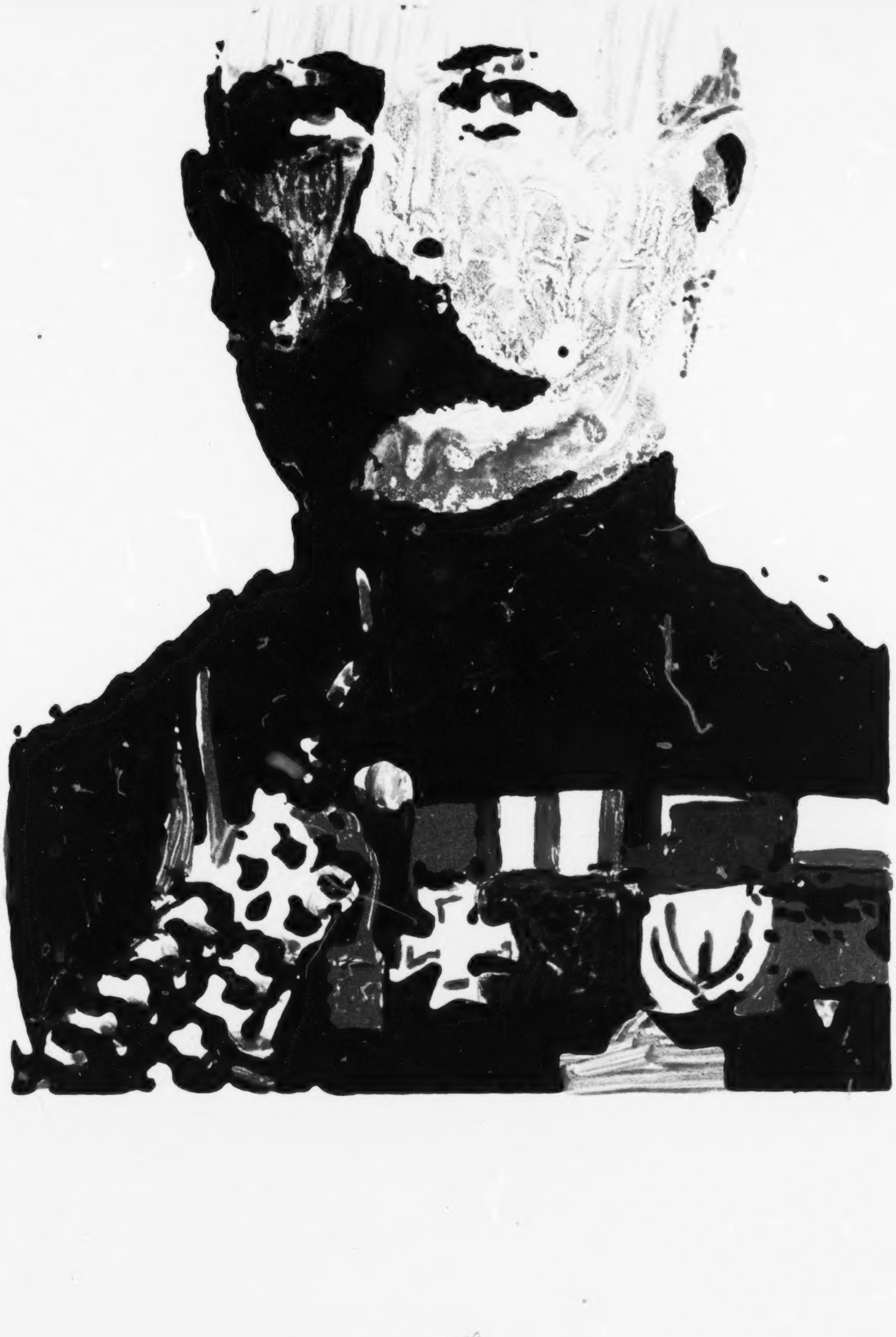
At the higher and further education levels, each institution and organization involved will be required,of necessity, to award its own degrees, diplomas, certificates and the like. But since credentialing has strong impact on teaching and learning performance, some alternative means ought to be vigorously pursued. One such alternative could be the establishment of a body somewhat analogous to the Council for National Academic Awards (CNAA) in Great Britain. This council handles credentialing for higher and further education in a manner quite similar to the way in which our Department of Education now issues basic education diplomas.

Underlying this method is the principle that equivalent credentials should stem from equivalent performance, regardless of where study was pursued. There is simple justice in that principle. Moreover, such a move would tend to obliterate noxious distinctions between "noble" and "less noble" institutions, and facilitate the transferability of credits.

Certainly such external assessment of internally relevant programs would have to be very judiciously undertaken. Otherwise the perceived requirements of the external council could become as oppressive as the Grade XII departmental examinations or national entrance test programs now are. An important component in such a scheme should be allowances for other means of demonstrating proficiency than are presently recognized. Years ago, for instance, the University of Alberta awarded Doctor of Science degrees to those who had qualified by other means than the purely academic. Many countries award law degrees on a similar basis.

No one wants to fly in an airplane piloted by a person who professes to have the skills needed, but who has not been qualified by competent authorities. Credentialing–which now most commonly means the granting of a certificate, be it the awarding of a mark, diploma or degree by an institution of higher education–is and will remain a necessary part of our system of public protection. But the pursuit of certification cannot be permitted to undermine the learning transaction, perpetuate social inequities, make people discontent with their jobs, and give certain occupational groups, through their licensing arrangements, unique and arbitrary power over the lives of many, as is now the case.

Awarding an academic qualification is one thing. Admission into an occupation is another. The interlock between the two tends to be pervasive and unwholesome. Hopefully, the work of the Legislative Committee on Professions and Occupations will lead to a thoroughgoing review and rearrangment of occupational licensing. Usually the demand for such licensing powers originates from the members of the very occupations to be licensed. Its effect is to raise the cost of entry into the licensed occupation, and to create prerequisite study requirements that are often unrelated to job performance. Licensing usually becomes a crude instrument wielded by a special group who want a service monopoly at the expense of the general public.



evaluation and freedom

The learner's behavior is controlled by his own perceptions. If he perceives learning to be a hassle, it will be. If he perceives it as rewarding, it will be. How he perceives learning largely depends on the evaluation process–his own and the teacher's. Proper evaluation brings two things to the learning transaction: clear objectives and a yardstick of progress towards them. Unless there is clarity and progress there is no guarantee that the learner will perceive schooling as useful.

Only when he perceives schooling as useful to him personally, can the student generate that abundant supply of learning energy that is education's greatest force. It is precisely at this point of self-perception that traditional evaluation is weakest. Evaluative paraphernalia is all around the learner–numbers, marks, marginal comments, pats on the head and kicks in the teeth. He may see all these as external objects, some of which are to be prized and others avoided. He may see them as the results of a competition between himself and the system, or himself and other learners. But seldom does he see them as self-evaluative means in the competition between his raw self and the acquisition of useful competence.

If we can help him to discover that evaluation has real meaning to his personal learning progress, he will feel a remarkable new freedom from evaluative oppression. Similarly, if his teachers can fashion evaluative means that will free the learner, they too will be free. Teachers share the oppression of traditional evaluation with their learners, although often for different reasons. They usually feel that evaluation is an administrative imposition that has little meaning. And since it has little meaning, teachers are afraid that they will be evaluated in their teaching performance on this faulty evidence.

Once the whole evaluative system is shifted towards what learners do instead of what learners remember, the teacher can shift away from grading and toward what the learner needs to know about his work and himself. This form of teacher behavior is often called diagnostic teaching and it implies that the learner is brought actively into the process so that he can appreciate his present status and what he still needs to do.

Process is a key work here because the learner has been taught, by traditional evaluation, that content is everything. For instance, seldom is any particular piece of content so important that the learner must have it. The appreciation of poetry, for instance, can be taught from thousands of different sets of content. So can history, geography, and at least parts of virtually every course offered in our institutions for schooling. Learners are usually flabbergasted to discover this process variable. That they should be surprised is a powerful condemnation of our traditional evaluative practices.

But the chief purpose of this shift in focus is to provide feedback for the learner so that he now comes to know himself better and can see the task ahead more clearly. He has been cramped by the existing system; his own motivations have been largely ignored, and he has been alienated from knowledge of his learning self. He and his teacher must be able to explore together, enjoying their successes and recognizing their failures, jointly planning the next moves.

All of this may sound sentimental and suggest that evaluative data is of no use to anyone but the learner. While that is the intended emphasis, other uses of evaluative data must be recognized as well–but in the end they are all intended to benefit the learner.

It will be essential, for instance, that all institutions for schooling have organized data on each learner so they can report intelligently to any other institution to which the learner may transfer. Similarly, the data must be available to parents and employers, preferably through the learner, and to the learners themselves. The key questions are how the most significant data for any purpose can be identified, how the reporting can be made most meaningful, and how the whole activity can be carried out in harmony with good learning and teaching.

Answers to these questions await hard developmental work. The Commission's study has only scratched this surface. But if our sense of direction is valid, and our forecasts accurate, that work can be done. The future system of recurrent education will have a constantly increasing supply of sophisticated tools, such as computers, and sophisticated personnel, such as systems analysts and behavioral scientists. The present evaluative barriers and complexities which may now look insurmountable will soon be easier to surmount.

performance

Improvements in process are the key to greater efficiency in schooling: for it is the time and talent of teachers and learners that are the high cost items. Apprehension about rising costs will persist so long as our institutions for schooling and the teaching fraternity are unable to demonstrate that their time and talent are being employed efficiently. The learning transaction must not only be more efficient, it must also be seen to be more efficient. To put it even more bluntly, if our existing institutions of schooling wish to survive they must do a better job of relating costs to results.

Visible efficiency is, of course, the major thrust of the emerging accountability movement. In a very commonsense way the advocates of accountability are simply asking that investments, efforts and results be reported in ways that are useful for policy making, resource allocation or cost accounting. The subsequent section of this report dealing with planning is intended to suggest how accountability might better be achieved in the decades ahead. In addition, many of the proposals in the previous section on structure, such as those related to the Alberta Academy, school councils and the Education Council, recognize and accommodate this concern. Similarly, many of the proposals in the resources section about the use of personnel, facilities, learning resources and finance are intended to enhance accountability. It will be all too easy, however, to continue avoiding in future, as we have in the past, the nub of the accountability issue: what learners actually achieve on a day-to-day basis.

This brings us back to the learning transaction itself. How can the objectives of a particular course or program best be achieved for particular kinds of learners? Will a lecture teach as much about a specific topic as the same amount of time spent guiding independent exploration by learners? Are non-institutional activities, such as on-the-job training, family living and travel, more effective than institutional ones in attaining certain objectives? These are the kinds of questions that need to be confronted on a continuing basis by each teacher, all institutions and every learner. They relate to both the principle of efficiency and the principle of quality.

While we are awaiting performance-improving changes in the learning transaction that will answer these kinds of questions, there are at least three simple things that should be done immediately.

One is to make an investment in helping individuals learn to work independently. If teachers in early, basic, higher and further education were to reduce their lecturing or talking by, say, 50 percent, learners would have time to pursue objectives through self-directed activity. At the same time, teachers could devote the time no longer required for the preparation and presentation of lectures to helping learners acquire the skills of independent study. The development of greater learner self-reliance is fundamental to the process of recurrent education. Furthermore, the shift in teacher role from director-imparter to guide-consultant is also fundamental in relating the human aspects of teaching to the future use of technology.

A second step that ought to be taken at once is to reduce the number of low enrollment classes. In our secondary schools, about 70 percent of the students are presently served by about 18 percent of the courses. Moreover, while about six percent of the total enrollment is in vocational courses, these courses constitute 40 percent of the total number offered. This meant that in 1970-71, for example, an average of six students per school were enrolled in courses like Agricultural Mechanics 32, Building Construction 32, Commercial Art 25, Electricity 32, Foods and Nutrition 30, Machine Shop 32, Pipetrades 32, Sheet Metal 22, and Welding 32.

Some disconcerting enrollment statistics exist in higher education as well–even at the undergraduate level. For instance, while the University of Alberta offers 27 undergraduate English courses, four courses account for 83 percent of the enrollment; while the Department of Economics offers 20 undergraduate courses, two courses account for 72 percent of the enrollment. On an overall basis, total enrollment figures for all Alberta universities show that in 1971, nearly 10 percent of the 1,401 upper undergraduate courses offered enrolled fewer than five students, while 20 percent enrolled fewer than 11 students. At the upper graduate study level, of 180 courses offered, 52 percent enrolled fewer than five students and 84 percent enrolled fewer than 11.

Some of these low enrollment courses in basic and higher education should not be offered. Others should be cycled on a two- or three-year term basis appropriate to the demand. Still others should be offered at only one location in the province, or in one location in a city or region–again often on a cycled basis. And still others could become part of a learning system package for delivery to the individual learner.

The third action that can be taken immediately stems, in part, from the second. More institutions should be sharing courses. This means that in low enrollment courses, a learner enrolled in one institution could include in his program courses from other institutions–in his community, his region, or elsewhere in the province. He could go to the course or the course could be brought to him–or a combination of both. Thus, a student at Mount Royal College might enroll in selected courses at the Southern Alberta Institute of Technology and/or the University of Calgary. Students in one high school might enroll in the courses of another, while students in vocational high schools might enroll in colleges and vice versa. The possibilities for interchange are many and varied and are limited primarily by outmoded psychological and administrative barriers that reflect the security of habit.

Moreover, the shared use of courses should be extended to include common content courses that cut across the related programs within and among institutions. For example, greater use of common courses among engineering, agriculture and science should be possible. At the same time, preparation programs for health sciences and educational personnel in colleges and universities might also include common courses.

The interchange of resources among all institutions engaged in recurrent education promises more than mere cost-effectiveness. It promises to help shape the system to fit the client, rather than the reverse, which is characteristic of present practice. Additionally, as noted in the discussion on transfer of credits in the section on structure, it would be a powerful method of achieving the interlevel and inter-institutional organic linkage essential for translating today's ideal of lifelong learning into tomorrow's reality.

Fears that reducing the number of courses offered will limit learner opportunities and compromise the principle of diversity are unwarranted. In the past, such fears have led to the development of too many courses that are not essentially different. This proliferation gives one the illusion of choice, not the reality. Within a limited number of courses there can still be personalization for the learner. Not individualization, but personalization. The distinction is important, and often confused.

Individualization means developing a different program for each learner. Personalization means making a program relevant to the learner. Individualization is a high cost approach because it requires the allocation of vast resources to course development and, when carried to its logical conclusion, a human and mechanical tutor for each learner. Personalization is much less expensive since fewer resources are required for course development, and learning in groups still occurs. Personalization does, however, constitute a greater challenge to the self-reliance of learners, the evocative skills of teachers, and the creativity and ingenuity of both.

By reducing the traditional, idiosyncratic influence of teachers in higher education–one of the insidious and indefensible spin-offs from the concept of academic freedom –we can probably increase the number of student contact hours per teacher. The present ratio is premised, in the main, on the view that each professor or instructor is his own program developer. Thus, he is required to devote a good deal of his time to planning and preparing his course or courses. The perpetuation of this medieval attitude into the latter third of the 20th century would be as foolish as it is dishonest. It is inefficient, costly and a kind of educational apartheid.

Application of the principles of personalization and quality, together with the creative use of learning systems and intensive developmental work on fewer courses, should increase the number of face-to-face hours between students and teachers in our colleges, institutes and universities. It should also bring about significant and necessary improvements in the learning transaction.

Present confrontations over accountability have also given rise to two more global alternatives that deserve careful attention. One is performance contracting, the other is the voucher system.

performance contracting

A performance contract, strictly speaking, is a type of legal contract. The contractor is rewarded according to his measured performance at a specified task. Evelyn Wood Reading Dynamics, for example, has offered such a contract for years. Triple your reading rate, or your money back. Manpower training programs are frequently negotiated on a performance basis. But performance contracting for instructional programs–paying according to how much children learn–is new to early and basic education. There have probably been a hundred performance contracts negotiated at these levels, primarily in the United States, during the past three years. A pilot project in performance contracting for improving the decoding and phonetic skills of inner-city students is apparently under consideration by the Edmonton Public School Board.

Performance contracts have taken a number of different forms, and their variety is likely to increase in the future. The most ambitious program, funded by the Office of Economic Opportunity at $6.5 million, resulted in contracts being negotiated between schools in 18 cities and six different performance contractors, involving more than 27,000 children.

The final verdict on performance contracting is far from in. Some contracts have shattered complacency, inspired creativity, improved learning, and turned the spotlight of public attention on the quality of classroom instruction. But others have inspired greed and chicanery, created poor environments for children, and fomented dissension.

Performance contracting has at its kernel a powerful idea. Someone other than children must bear the responsibility for successful learning. Who bears that responsibility, and to what measure, are questions loaded with dynamite. Surround these questions with money, risk, publicity, new teaching strategies, new people, new rhetoric, systems analysis, contingency management, and more, and it is no wonder that this recent, and thus far miniscule, phenomenon has raised such a ruckus in public education.

While most performance contracts have been of primitive design, there are now signs of emerging sophistication. Here and there, creative and knowledgeable people are expanding the narrow definitions of performance that have tended to apply only to the teaching of basic skills; they are devising better ways of evaluation than were used in the past; and they are sharpening their contracting skills so that projects of more than publicity value emerge. If this sophistication grows and triumphs over the hucksters and panacea hounds who also flock to innovation, the performance contracts of the early '70's could well be the first ripple of a new wave in schooling.

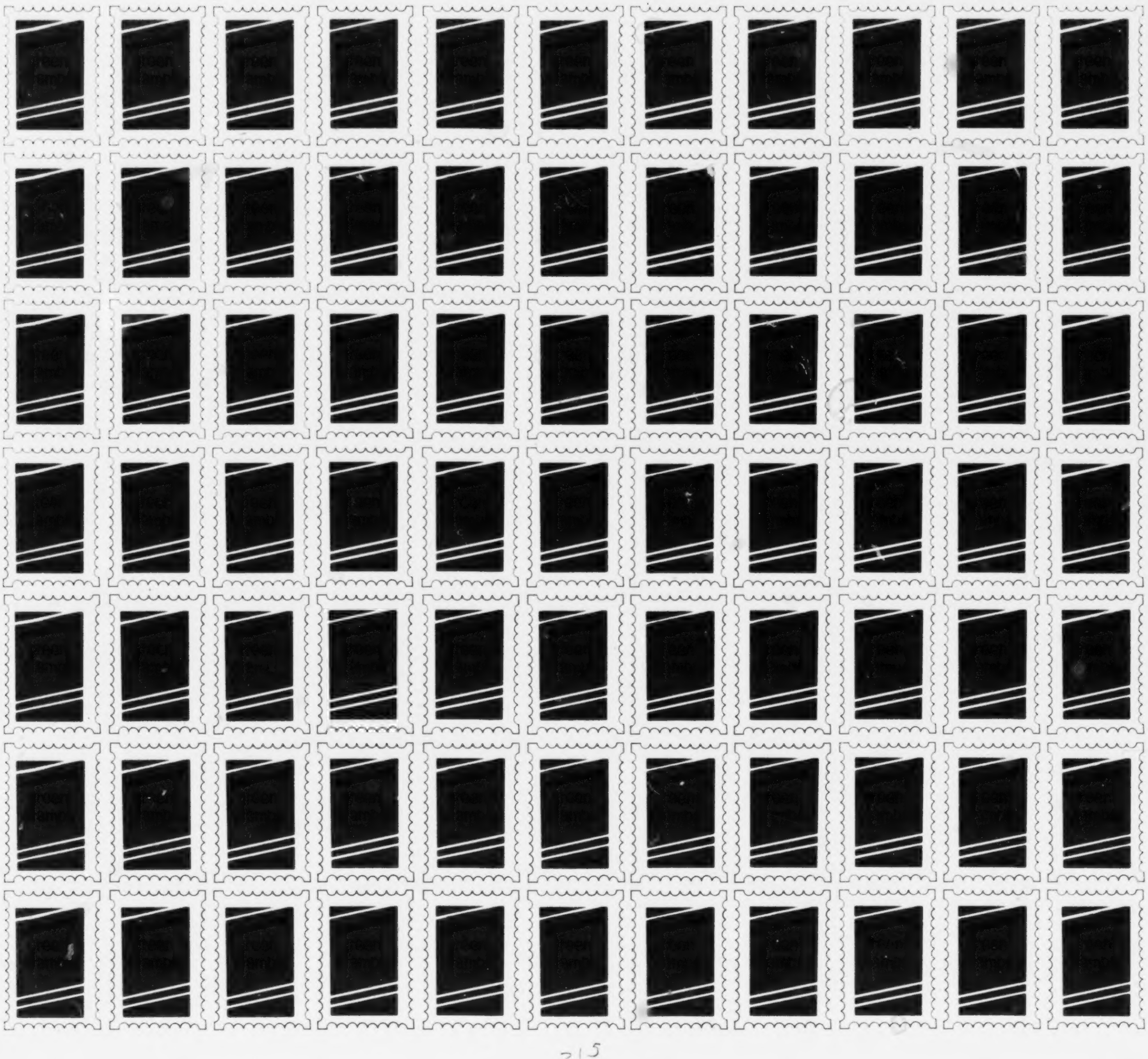
voucher systems

A voucher system is a plan in which the state issues to the individual a voucher which he, in turn, may use to purchase schooling at the institution of his choice. The emphasis is upon consumer choice, in the hope that institutional competition will produce more effective and diverse educational opportunity. It is argued that if learners have a greater choice among institutions or programs, the purveyors of schooling will have to become more accountable. They will have to produce results or provide an adequate explanation of learner inadequacies and dissatisfaction–or face the loss of their clients.

As initially conceived, the voucher plan was thought to be particularly appropriate to early and basic education. Indeed, many minority religious, cultural and ethnic groups in Alberta view it as a desirable means of gaining state support for private education. More recently, it has been seen as a tidy way to provide learners in higher and further education with investment capital and complete freedom to invest this capital in the program of their choice.

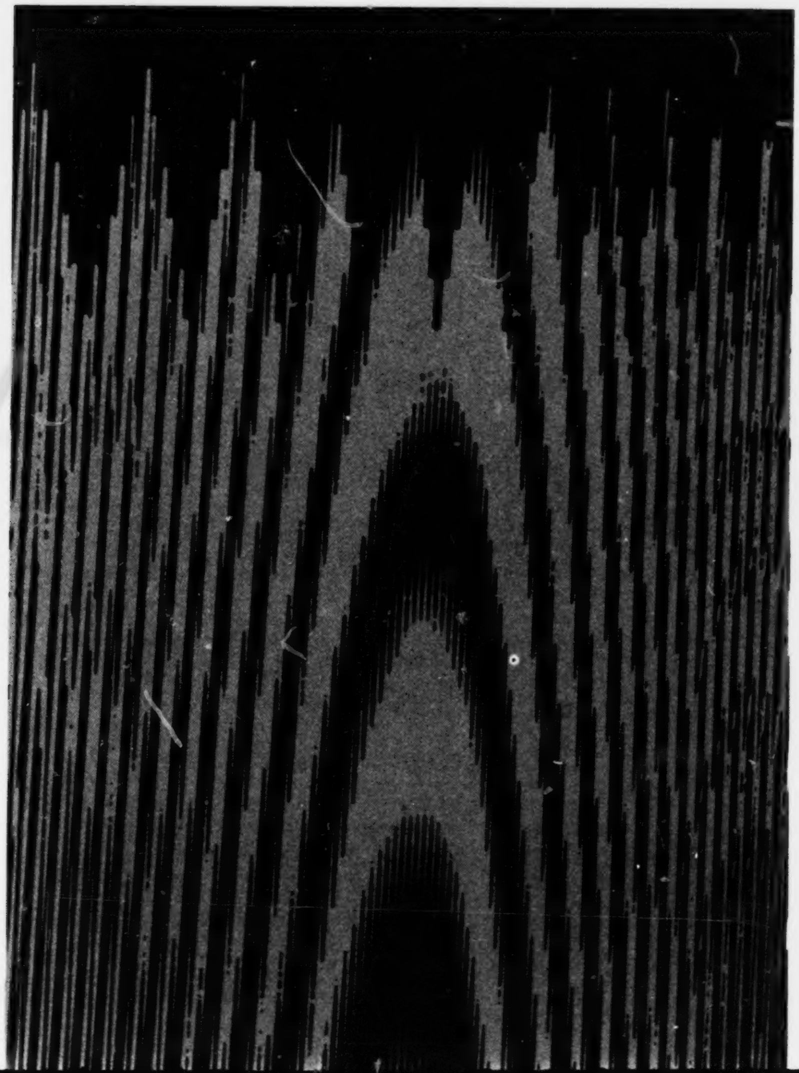
The evidence on voucher system performance is not available, simply because the voucher plan has not yet been tried on any significant scale. On theoretical balance, and considering the tendency for people services to shift into the public sector, or at least come under greater state control, the voucher system appears as an unlikely alternative for Albertans in the foreseeable future.

Voucher systems are consistent with the principles of equity and unity–at least in the short run. The idea of increasing consumer power through the weapon of money is attractive and ought to be built into provincial and federal formulas for funding schooling and upgrading performance. At the same time, Albertans should carefully monitor the application of any full-fledged voucher systems elsewhere to assess their validity as a tool for use in the years ahead. It is quite possible that vouchers could be more efficient and attractive in schooling than they have been in social welfare. Certainly they would have to be.



perspective

This section has argued that we must close the gap that has long existed in our institutions for schooling between matters of the head and matters of the heart. Against the backdrop of the futures-forecasts in Section I, we need honestly to consider how many of our society's major problems will be solved by improved academic training in the conventional sense–as opposed to how many will be solved by improved social consciousness, economic prudence and political know-how.



In the last third of the 20th century we must find a place in our institutions of schooling for the expression and development of the social conscience, and of the human instinct, as well as the rational mind. We are schooling decision-makers, and decisions of the future must not be made on the narrow foundations of the odds player, the systems zealot, the profiteer or the bleeding heart. The foundations of future decisions must be built on reason, humanity and intuition.

Consider for a moment the relationship of decision-making and technology in the future. Technology will be used in the determination of decisions, and in their execution. Technology is, in itself, value-free. It is capable of dehumanization and value distortion only if its human programmers wish, or allow it to. These programmers will come from our schools. Is is not desirable for these people to bring a higher morality to their decision-making duties than that provided by narrow specialists?

How do we bring that humanizing dimension to the learning transaction? Too often definitions of the humanizing process become merely someone's notion of what a good teacher is. An even more superficial view measures the humanizing element by course content, equating high levels of humanization with whatever is impractical, spiritual or elevating. While not denigrating the humane effects of both teachers and academic disciplines, this report suggests two additional strategies: the recognition and use of modal learning processes, and the emphasis of life experience skills such as problem-solving, valuing, communication and decision-making.

In the past, most learning has been undertaken in what this report identifies as the institutional mode (Mode I). Certainly there are many variations, but Mode I emphasizes that the learner is dependent. He works towards objectives determined by the institution and directed by the teacher, and in subject patterns arranged by the institution. His progress is measured against established norms. He becomes the product of a formal, teacher-oriented learning corporation. This is basically a paternal mode and there is no use mincing words about it. The institution knows best and does certain things to the learner for his own good. In this mode the learner can find order, discipline, reward, humility, standardization, competition, organized knowledge, social and cultural opportunity and a certain place in the scheme of things. Some find more and some find less.

Certain of the characteristics of Mode I can indeed be shown as humanizing, especially for those who want their place in life well-defined. But no one–surely–will find the humanizing characteristics of this mode either sufficient for life, or of equal benefit to all individuals.

The membership mode (Mode II) identified by this report has already been given token attention by most institutions, at most levels of schooling. But since real control must be passed over to the student group, formal schooling's commitment to this mode has almost always been superficial. Mode II stresses cooperative enterprise, interdependence, group objectives and common concerns. The teacher facilitates, but does not control; the process of doing things for one another, and for the group, is pre-eminent. This mode emphasizes human interaction, communication, mutual respect, cooperative behavior, shared decisions, team effort and participatory planning and learning.

Certain of the characteristics of Mode II can be shown as humanizing, especially for those who feel their place in life depends upon group well-being. But the characteristics of Mode II will not satisfy all who search for human fulfillment.

The autonomous mode (Mode III) is already present in some of our institutions for schooling as well–either by design, where it is called independent study–or by failure, where it is called going out on your own. Mode III places control of the learning situation in the hands of the individual. He determines his own objectives according to his own interests; the teacher is a consultant. The learner evaluates his own performance; he does things with–with materials, with people, with exploration–all at his own choice. Mode III fosters independence, individual enterprise and responsibility, self-reliance, freedom, self-pacing and self-direction.

Certain of the characteristics of Mode III can be shown as humanizing, especially for those who feel their place in life depends upon self-realization. But Mode III will not meet the needs of everyone, nor can everyone handle this much responsibility easily.

Mode I, which now predominates, has not brought the full human dimension to schooling. Nor would the substitution of either Mode II or Mode III. But, in combination, Modes I, II and III possess many of the ingredients necessary for the development of a fuller human potential. Singly, some critics will cite the danger of alienation in Mode I, or of anti-capitalism in Mode II, or of anarchy in Mode III. But, in combination, the checks and balances can assure that no single mode will dominate to the overall detriment of a strongly founded democratic society, especially a society that truly believes in unity through diversity.

It is not enough, however, for schooling to perform a subtle modal mix. Learners must not only have experience in the full run of each mode,they must know what purposes these modes serve and be made aware of the strengths and weaknesses of each. In this sense, modal mixtures must be accompanied by a concerted effort towards developing modal consciousness.

The three modes identified here parallel the modal foundations of our democratic society: the state (Mode I), family and community (Mode II), and the individual (Mode III). They are basic requisites to life experience. While this report encourages greater emphasis on the autonomous mode, and a de-emphasis of the institutional mode, it also recognizes that all modes, and their variations, will continue to have a place within classes or groups, by subjects or activities, in institutions and by institutions.

The second strategy for realizing greater human potential within education is the direct teaching of life experience skills, some of which have already been identified as problem-solving, valuing, communication and decision-making. To these, add problem posing, situational management, logical thinking, lateral thinking, propaganda-screening and others which may be identified from this report or from other sources. The theories underlying these particluar skills might be taught in Mode I, but it becomes immediately evident that their practice is best accomplished in Mode II and/or Mode III. And it is the practice of these skills that must be introduced; a theoretical skill is no skill at all.

The introduction of life experience skills need not await any grinding of wheels by the administrative machine in the upper levels of basic education. Provision is already made for teacher-constructed options in both the junior high and high school grades. Some few teachers have already introduced such courses to their students; others will face no impediment if they believe, as this report does, in the importance of the mission. With some slight teacher impetus, other levels of schooling could soon follow suit.

This report has already made its case for learning by doing. Similarly, it has devoted considerable coverage to several of the life experience skills and has mentioned many others in passing. Competence in these skills, and the environment (mode) in which they are practiced, constitutes a good deal of what it is to be an effective human being. If the Commission were more daring it would likely suggest an escalation in practice at all levels of schooling, and a de-escalation in theory. But the Commission does not because it recognizes that there is nothing more practical than a good theory. Therefore, this report calls upon schooling to start practicing some good comprehensive theories of human development.

planning

A number of recurring themes and specific proposals in preceding sections of this report have underscored the need for more systematic planning in the future. Hard questions must be asked about how well we have been doing, where we are going and where we ought to go. The answers to these questions will help us overcome the extensive irrationality, exaggerated subjectivity and excessive conservatism that now characterize most debates and decisions about schooling.

Planning in education, like that in any other enterprise, is difficult to define with a high degree of precision. Agreement on an acceptable approach to planning can rarely be found, particularly among those who have given the most thought to it. In the minds of some, the concept of planning has strong economic overtones. For others, it holds a much broader definition that considers the relative merits of both quality and efficiency. The sense of direction proposed in Section II requires adoption of a stance in planning related to the latter perspective. It also requires that planning be closely related to the following phases of the decision process: identifying, defining and refining objectives; devising alternative programs for achieving the selected objectives; evaluating alternatives; monitoring the operation of programs that have been implemented; and developing new directives or programs in the light of previous experience and emerging conditions.

intent

Our motive for planning may be adaptive or reconstructive. The former is aimed at anticipating trends and adapting to them. The latter involves deliberate intervention to alter expected events. Adaptation involves planning for the future, while reconstruction involves planning of the future. Given the futures-forecasts and sense of direction previously outlined, it follows that the efforts of Albertans ought to be increasingly directed toward the planning of the future. Reconstruction would involve setting and keeping in motion those activities that will encourage the anticipation of human and social needs, while encouraging a responsiveness to them. In this sense, planning is essential to the improvement of life-values and life-chances for all of us.

objectives

The general objective of educational planning should be to make schooling more responsive to individual and societal needs now and in the future. Although this restatement of the principle of adaptability may serve to give some orientation to the scope of planning, it does not give an adequate indication of the varied processes and structures required to carry out planning. In order to develop an understanding of these factors it is necessary to identify some of the more specific objectives of planning.

Planning theory and practice have undergone major changes in the past decade. Historically, different objectives in educational planning emerged in approximately the following order of emphasis: to direct the orderly growth and development of an educational system; to relate educational expansion to economic development; to relate educational development to social objectives; to achieve efficiency in the operation of the educational system; and to develop qualitative improvements in education. Obviously, these objectives are not mutually exclusive and no planning efforts have stressed one to the complete neglect of the others. Nevertheless, these objectives were given differential emphasis in the past and might even be considered as evolutionary stages in the development of educational planning.

Today it is generally accepted that all of the foregoing objectives are valid. A comprehensive planning process in recurrent education should attend to all of them. The objectives may, however, receive different degrees of attention over time, and within every level of our system of schooling.

orderly growth

In recent decades the expansion of enrollments has been the most impressive development in education throughout the world. The initial response to these unusual growth patterns was one of reaction under pressure.

Educational planning emerged first in those systems where the demand or need for education far exceeded available facilities, personnel and, of course, financial resources. The expansion in education that took place within the context of rapid economic growth, as in Alberta, was accomplished through simple expansive planning that has a character of its own–incrementalism.

Recent queries about the social and economic values of formal education have coincided with the growth of personal aspirations and group discontent—spurred to new heights by affluence, change and the mass media. As the tempo of this controversy mounts, and there is an escalation in demands for a better future, the need for good judgment will likewise increase.

Future growth will have to be planned in much greater detail at all levels of governance from provincial to institutional. Realistic targets must be set, the demands on resources must be assessed, and alternatives must be evaluated. In this way there is greater certainty that essential programs and resources will be available when they are required. Planning may also be used to direct our efforts and resources in such a way that needed educational services, which might at first appear unattainable, can be brought within our grasp.

Those institutions and jurisdictions with the resources to do so should make increasing use of simulation and computerized information systems. Even where such technology is not available, the more standard approaches to projections and analyses can yield useful planning information. Whatever approach is used, all decision-makers should have available forecasts of future enrollments, projected resource needs, and other quantitative data in a form that will render them useful in their deliberations.

Although coordination should be a major responsiblity of the provincial government, certain aspects of this obligation must be shared widely throughout the educational enterprise. Initiative for collaboration, willingness to cooperate and a free exchange of information must occur at every level. Such participation is a valuable safeguard against prescription and inhibition. It is also a powerful stimulant for change.

economic development

Certainly the dominant force in the history of educational planning has been an economic one. When educational planning is viewed from an economic perspective two objectives are generally stressed. The first emphasizes schooling as an investment in human resources. The second underlines the need to optimize scarce resources. These economic objectives of educational planning are still pertinent for Alberta.

One technique for appraising the optimum level of investment in schooling, cost / benefit analysis, is currently finding increased acceptance. Basically, this approach weighs alternative uses of the same resources. It can be used not only to assess the relative economic benefits of investment in schooling against other public projects, but to maximize returns from given amounts of resources devoted to schooling. This method requires that the cost and economic benefits of schooling be determined before a cost / benefit ratio can be established. The usual approach to the calculation of benefits is to confine them to the direct monetary returns received by individuals. Although the techniques are highly sophisticated, the full promise of cost / benefit analysis as a tool in planning has not been realized because some benefits are not quantifiable–at least, not yet.

Canada's growing industrialization, and the changing nature of work, have created further requirements that may be examined by way of an additional technique–manpower planning. This approach focuses on those parts of the educational system that provide the supply of skilled manpower required to meet the needs of the economy.

Within this context manpower planning attempts to provide a blueprint for schooling that will contribute to, and be supportive of, economic expansion. Accordingly, the major aim of planning activities is the preparation of a schedule of manpower requirements for higher and further education in a long-term perspective. The results of such planning activities are the familiar projections of numbers of technicians, health science workers and teachers required in a particular region at some future time, together with estimates of the resources necessary to produce them. However, the general nature of some occupational classification schemes provides little, if any, guidance for translating demand into supply. For example, the forecasts prepared by the Federal Department of Manpower and Immigration aggregates broad occupational groups such as management, professional and technical, clerical, sales, service and recreation. The value of such studies is further limited by the fact that the three prairie provinces are often treated as a single region. Before manpower forecasting can be of assistance to educational planners in Alberta a finer breakdown of occupational groups by function, province and region is necessary.

The 1970 Survey of Alberta Manpower Development is a good beginning, but will require continued updating and refining so that educational opportunities may be brought in line with vocational requirements. In addition to comparisons of future manpower supply and demand, continuing consideration should also be given to the possible social implications created by the implementation of manpower plans. Hopefully, the new provincial manpower planning venture being launched by the Department of Labour will be able to do these things.

In view of economic interdependence and migration, it is imperative that local and provincial efforts be an integral aspect of a larger national endeavor. One model for the kind of coalition that could produce meaningful demand statistics for Canada is the Institute of Manpower Studies in the United Kingdom supported by government, universities, employers' associations and trade unions.

The relating of such manpower demand statistics to specific programs is a planning activity that should be carried on at all organizational levels in Alberta: institutional, local, regional and provincial.

As a consequence, employment prospects would become the most significant criterion for the establishment of any new program in our schools, colleges, institutes, universities and AVTCs. Similarly, excessive manpower supply would become a valid reason for suspending, and even abandoning, existing programs. However, use of the employability or manpower criterion should be tempered by the emerging evidence that different types and levels of highly-skilled manpower may much more easily be substituted for each other than was previously believed. Also, educational planners must be sensitive to the growing realization by society that man is more than a producer-unit. In a person-centred society, manpower planning's most valuable contribution is the provision of information necessary to reconcile economic requirements with human needs.

social change

In Alberta, social objectives must rank equal with, if not higher than, the economic objectives of educational planning. Explicit recognition of both social and economic needs will lead to a broadened concept of the functions of schooling. Section I of this report points out a number of areas where social changes might be sought. Tensions among groups, mental illness, crime and violence, drug abuse and alcoholism are but a few of the many imposing and complex problems educators must face in cooperation with those in other sectors of society. However, it is not completely clear how schooling can contribute to the alleviation of these problems.

In the past, the social change or objective toward which educational planning has been principally directed is that of equality of educational opportunity. Although there is little disagreement about the merits of this objective, it has proven to be difficult to define and attain. For example, experience in the United States shows that individual Americans are often willing to pay almost any sum to obtain educational opportunities for their own children, but not for equality of educational opportunity.

In spite of efforts within Alberta to equalize educational opportunity by stressing equal resource allocation, major differences continue in enrollment rates and achievement levels for different social and economic groups. Results of this nature occur because the allocation of similar educational resources among our institutions for schooling is not an adequate response to the social and economic inequalities that exist within our society. Resources ought to be distributed according to both social and educational needs. The consequence of this approach would be the unequal treatment of learners in order that equality of opportunity might prevail. Action in accord with this principle of equity would help eliminate those undesirable educational disparities and inequities that exist among various cultural minorities, between rural and urban settings; and within urban areas, between the inner-city and suburbia. These disparities will prove to be tenacious and will be overcome only by planned action. Similarly, planned efforts will be required if our institutions for schooling are to undertake other social change ventures.

Planning to attain social change must first be based upon a clear statement of objectives. General goals, such as those given earlier in this report, can be used as a guide to decision-making, but they can also be viewed as challenges to planning. To educate people for the development of personal autonomy and ethical discretion, for example, is in large measure a planning problem. If these purposes are accepted

as general goals, then there must be efforts to spell out more specific objectives, together with the ways and means by which these objectives might best be achieved.

Attention must also be given to devising measurements or indicators of the extent to which desired social changes are occurring. In order to work toward equality of opportunity, for example, we must have information on participation and achievement rates by different groups, followed by an analysis of factors both controllable and uncontrollable which would seem to explain the differences. Finally, targets must be set for the reduction and ultimate eradication of inequalities, and suitable policy instruments designed to attain them. Again, the procedures that will need to be followed in relation to other social changes or objectives are very similar.

efficient operation

A fourth charge which falls to educational planning is that of increasing the efficiency of schooling. Efficiency as an objective in educational planning has assumed dominance for a number of reasons, particularly escalating costs and competition from other social services. Increases in the output or productivity of our institutions for schooling are far less visible than are the increases in input. There seems to be a general suspicion that the increases in output, both visible and not so visible, have been disproportionately small. This accounts for the fact that people consistently asked the Commission questions such as: Are students really learning? Is the content of what they are learning significant in today's fast changing world? Do teachers and professors really care what happens to their students? This general uneasiness and uncertainty about our educational accomplishments has led to a change in funding philosophy. In times past, attempts to improve schooling took the form of increasing the resource allocations. Now the emphasis has shifted to making better use of available resources–the principle of efficiency.

Planning to achieve efficient operation requires scrupulous monitoring of each stage of the decision process from setting goals to evaluating results. Clarifying goals should also lead to setting priorities among goals. Action on some may have to be deferred until additional resources are available. Special attention must be given to costing in the design and evaluation of programs. Although cost need not be the dominant variable in choosing among alternatives, it dare not be ignored. Program budgets provide a ready means for linking costs more visibly to different programs and objectives.

To a large extent, planning in accordance with the principle of efficiency involves the application of sophisticated management techniques to educational administration. The application of such techniques is appropriate in all levels of governance, but eminently so close to the learning transaction. Consequently, administrators in schools, colleges, institutes and universities must become quite familiar with the application of analytical techniques that are basic to effective decision-making—systems analysis, costs analysis, program budgeting and project management.

No doubt it will be possible to increase efficiency through improved management and coordination. However, there is slight prospect for achieving major economies by these means alone. The improved use of resources can occur only through the development of alternatives that penetrate the shield of myths and prejudices which make schooling impermeable to change and refractory to reform. One such tradition rupturing alternative is the Alberta Academy described in Section III. Others are outlined in the discussion about performance in the previous section on process. Still others will be suggested in the next section on resources. The refinement of these alternatives, and the identification and development of many more, is the awesome challenge in planning for efficient operation.

excellent schooling

No one disputes the need for excellence in schooling. It is a powerful and pervasive idea that flows from the principle of quality. It is also an elusive one. Each person likes to define excellent schooling in reference to his own aspirations, his own interpretation of high standards, and his own hopes for a better quality of life. Excellent schooling is everywhere acknowledged as the prime objective of educational planning, but it is often downgraded in practice because of disagreements over what it means.

It might be said that the existence of this report creates the opportunity for Albertans to make their stand on excellence known so that we may move toward quality on the basis of consent, consensus and compromise. Change in the process of education could then become the prime purpose for planning, in practice as well as in theory.

guidelines

The foregoing objectives give some direction to a general planning effort. Emerging theory, research and practice also suggest further guidelines for the development of processes and structures for planning recurrent education in every institution and each jurisdiction. Six of these guidelines are enumerated below. The details of their implementation depend largely on situational factors.

location

Planning should be effectively linked to decision-making. It must be viewed and practiced as a phase of the decision process that shades into other phases. When this guideline is ignored planning endeavors become impotent. They have little or no impact on policy decisions. In these circumstances it is not unusual for planners to turn inward and become enamored with techniques, and to be involved in the production of information that is seldom used.

The obvious implication of this location guideline for the organization of planning is that specialized units must be placed close, in a structural sense, to where policies are formulated and decisions are taken. Unless effective linkages are established, planning activities will make little or no difference in the actual operation of the educational enterprise.

Another implication–or hope–is that application of the guideline will close the gap between policy and knowledge. In North America, for example, there is little argument about the great significance of early education. There is, however, a large gap between what is known about different patterns of childhood development and what is actually put into practice. There is no simple and direct connection between the development of knowledge about schooling and its translation into policy or practice. Almost always innovations have resulted from evangelical or cultural movements, or were introduced for political reasons, or for their potentially high economic return. Strengthening the bond between planning and decision-making should help to change this.

knowledge

Planning should be closely related to research and development (R&D). Without an adequate knowledge base broadly dispersed throughout the educational system, planning is usually ineffective–sometimes even dangerous.

Presently research and development in education, in this province and elsewhere, is carried out by a wide variety of individuals and agencies having little or no contact with one another. The result has been dissipation of effort, repetition of the obvious and neglect of critical issues. It is not difficult to understand, therefore, why some teachers and taxpayers have become rather skeptical about the value of R&D in education.

A major reason for this deplorable state of affairs is that most educational research in Alberta has been closely connected with earning higher degrees. Its focus is narrow and personal. Thus, degree-oriented research usually bears little relationship to the real world of schooling or to policy analysis. Moreover, this once-in-a-lifetime approach to research lacks continuity and depth. Consequently, it has failed to yield the basic theory as an underpinning for development studies that industrial R&D has had to draw upon. That is why so much that passes for development and innovation is mere fashion.

Another important reason for the lack of impact by research and development is resource strangulation. Our unwillingness to commit substantial sums of money to R&D in education on a continuing basis has made it impossible for us to develop the capability to do the job as it should be done. Innovations and changes are often not grounded in any clearly-defined theory, nor are they usually well-tested before dissemination. It is little wonder that few survive. With each passing fad our expectations with regard to the benefits to be derived from R&D spiral downward—and we fall prey to the power of the self-fulfilling prophecy.

It is difficult to state what proportion of the total educational budget ought to be allocated to research and development. The frequently-quoted one-half to one percent is considered by many to be far too low; yet it would be a vast increase in comparison to current allocations. Moreover, it is probably as much money as could be profitably spent given present traditions and talents. As our capability for R&D grows, we could move progressively toward at least two percent–which would still be far below allocations in other sectors of society. Ultimately, the dollar question has to be resolved in terms of the value that the people of Alberta are prepared to place on improving schooling and protecting their already high investment in educational services. This value judgment can be profoundly influenced by the observable pay-off from informed planning.

correlation

Educational planning should be correlated with general social and economic planning. Such correlation is essential at all levels of governance–national to local. The interdependence of social services, the limits on resources and the need for priorities necessitates various forms of correlation. Provisions for correlation can range from consolidation of services under the jurisdiction of a single agency to intergovernmental committees. The need for such correlated efforts is particularly great in view of the social and economic changes forecast for Alberta in the years ahead.

Regional and local correlation is vital both for urban and

rural areas. Shifts in population in rural areas, variations in economic base, differential rates of economic development all hold implications for educational planning: location of schools, enrollments and programs. These areas also require differential social services that should be linked to educational development. Similar correlation is required for urban areas in total or for particular sections of metropolitan areas.

This correlated approach need not raise the spectre of a centralized, bureaucratic planning machinery. It could be achieved by such relatively simple procedures as provisions for communication and information exchange among those responsible for planning in related sectors. However, in the case of ventures like the Integrated Provincial Development Plan, community-schools, and regional learning centres identified in Section III, closer liaison and highly integrated planning is obligatory.

conduct

Planning should take place throughout the educational system and should go on continuously using appropriate strategies. The complexity of planning and its close relationship to the decision process dictates that the activity cannot be restricted to specialized planning units. Although certain aspects of planning require unique types of expertise which might best be centralized, the total function can be dispersed in much the same way as is decision-making. Structural provisions for planning must be made by the provincial government, governing boards and institutions, and the particular planning responsibilities of each clarified.

Planning must also be viewed as being continuous through time. Intermittent and sporadic planning is not adequate. Nor is it sufficient to engage in lengthy cycles of planning followed by implementation. Instead, provisions must be made for the continuous revision, updating and aborting of plans in the light of new information. The term rolling-planning has been used to describe the process of annual or periodic updating of long-term projections and proposals. In several European countries this has proven to be a much more satisfactory basis for policy development than single time projections.

Distinctive planning strategies are often warranted for different goals, policies and programs. These differences ought to be mirrored in the design of structures, the arrangement of activities, and the selection of technologies for planning. Moreover, sound educational planning demands a highly varied capability that includes the skills of persons from such diverse fields as philosophy, curriculum and instruction, economics, demography, statistics and business. A key organizational task is to combine these skills in the most effective way possible.

freedom

Planning should permit high degrees of local, institutional and individual autonomy. To many, the very concept of planning carries connotations of centralized control—a kind of big brother statism. This Orwellian-type nightmare is a straw-man conjured up by those whose special privileges and powers are threatened by the egalitarian distributive effects of planning, or by those who simply do not understand what planning can be.

Centralism is not a necessary concomitant of planning. Planning can be carried out both centrally and locally. It can lead to either centralized or decentralized decisions. Although some planning may lead to centralization for coping with some problems, it is just as likely that planning could identify decentralized control as the most rational way in which to cope with certain other problems. Determination on the part of those responsible for planning to give particular thought to developing alternatives that do not impose undue constraints on individuals, institutions and local authorities should permit diversity and flexibility to flourish. Planning will only degenerate into control if we let it do so through inadvertence.

An important inference to be drawn from the foregoing is that a planning unit should never be used by the top leadership in organizations as a control mechanism over other units. To do so would be to destroy its credibility and to impede, if not destroy, the unit's ability to perform legitimate planning tasks.

involvement

There should be widespread client participation in educational planning. This reflection of the ideal of participatory planning, and restatement of the principle of participation, views both the public and learners as clients. It recognizes also that when engaging in educational planning it is all too easy to ignore the highly political character of the goals and processes at stake. Greater client involvement sets the stage for a new relationship between political forces and the citizenry; for a finer and quicker adjustment of objectives to conditions.

Again, in Sections III and IV of this report a number of proposals are offered for increasing client participation in educational affairs. Others are described subsequently. Hopefully, through a combination of these proposals with common sense and sophisticated technology, Albertans will be able to act together to plan future education in this province.

technology

Adoption of systematic planning in education, as in human affairs generally, has lagged far behind the development of tools and techniques for carrying out the planning activity. The rapid advance in the development of planning technology makes it somewhat hazardous to dwell on specific techniques since these may soon be replaced by better approaches.

Therefore, rather than to describe any one technique in great detail, it seems advisable to identify some of the general characteristics of planning technology and to make reference to emerging trends.

There are no simple technological solutions to planning. There are no techniques that are anything more than contributors to the planning process. For most of us, it is much more important to understand where specific techniques fit into the planning process than it is to understand the techniques themselves. This is because we are entering an era of concentration in planning on qualitative issues as opposed to the quantitative concerns that have tended to monopolize planning efforts in the past.

conceptual framework

It is imperative that planning activities be set within an adequate conceptual framework. If this is not done, the risk increases that planning may lead only to making bad practices efficiently bad, to the entrenchment of undesirable practices, and to disenchantment with planning itself. The conceptual basis for planning is best provided by what might be identified as the systems view or general systems theory depicted in Figure 14. In essence, this approach implies the intent to analyze particular problems or activities in the context of some totality, to identify objectives of a unit or action, and to consider the interrelated activities that are required to achieve the objectives. The ability to define the totality, the system, is a prerequisite to planning and rational decision-making.

The activity of planning itself is even more closely related to systems analysis. The general stages in this analysis are conceptualization of the system–the entire provincial effort in education, a school system, an institution, a classroom, a learning group, an individual–in terms of its main structures and processes, specifying goals and objectives, generating and evaluating alternatives, and programming implementation. An understanding of the basic conceptual point of departure should be required of all those who are involved in the technical aspects of educational planning.

A systems perspective or approach promises to make individual planning activities more meaningful and to facilitate communication among various specialists in planning.

Effective planning requires that there be adequate communication among those engaged in various phases of the planning-decision process, among planners at different points of the structure, and among planners in education and those in other fields. Although each of these individuals and groups will be concerned with somewhat different aspects of planning, the ability to conceptualize a total system and its relationship to broader systems will assist in the overall integration of planning.

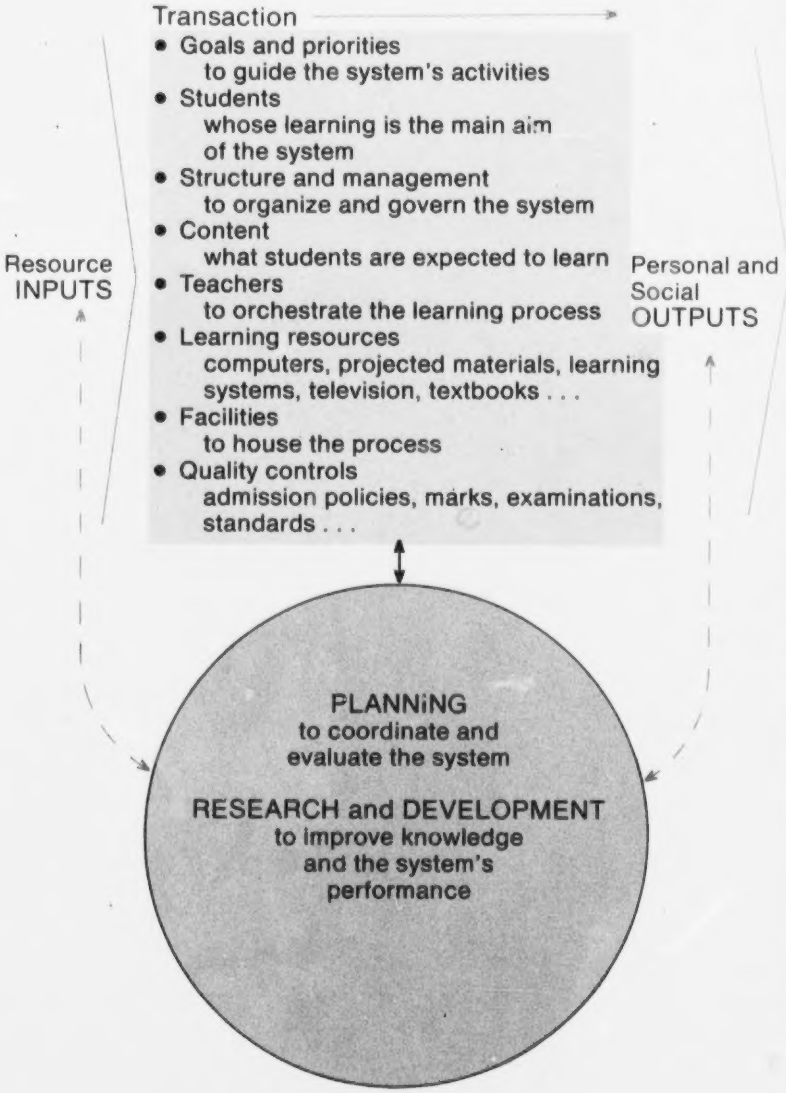
The full implementation of a systems approach to planning in education remains to be developed. Some beginnings have been made which can be assessed and extended or modified. For example, the Edmonton Public School Board is currently experimenting with this approach. The general intent of the Edmonton project is to integrate various aspects of administrative planning, and to relate planning at the school and classroom levels to central office planning.

identifying goals

We are confronted by the inevitability of deliberate choices. Any action in schooling results from a choice to do one thing but not another. A central task of planning is to help us make better choices. It can do this by specifying objectives, reconciling conflicts and establishing priorities among them. This is a herculean task. But as difficult and time-consuming as it is, defining goals and objectives dare not be shirked. They are our only reference points or bench marks for analyzing whether what we are doing is what we want to do.

There is widespread agreement that for the goals and objectives of schooling in Alberta to be sound they must: be conceived in terms of the demands of present and future circumstances; lead toward the fulfillment of basic human needs; be either consistent or noncontradictory in their relationships with one another; be in harmony with democratic ideals. Unfortunately, this agreement about criteria for goal-setting is not matched by a means for their application. No technology or magic formula for identifying goals is readily available. Our only recourse is to human judgment buttressed by study, discussion, and the latest techniques for ordering and analyzing data. This procedure sounds rather simple. And it is–until it is attempted.

Figure 14
Major Components of a System for Schooling


Transaction
Goals and priorities to guide the system's activities
Students whose learning is the main aim of the system
Structure and management to organize and govern the system
Content what students are expected to learn
Teachers to orchestrate the learning process
Learning resources computers, projected materials, learning systems, television, textbooks . . .
Facilities to house the process
Quality controls admission policies, marks, examinations, standards . . .
Resource INPUTS
Personal and Social OUTPUTS
PLANNING to coordinate and evaluate the system
RESEARCH and DEVELOPMENT to improve knowledge and the system's performance

anticipating the future

Planning always involves some view of the future. Thus, the interrelationship between educational planning and futures-forecasting is reciprocal: each affects the other. Usually it is assumed that the future will be much like the present, or that present trends will continue unabated into the future. For short-range planning these assumptions have sufficient validity to render them useful for decision-making. This is particularly true for specific quantifiable variables. The children who will be in school five years from now have already been born; the skilled technicians required 10 years from now are already in school. Projections of enrollments, and of space and dollar requirements can often be made on the basis of available trend data.

The generation of predictions and projections for short-range planning has been greatly enhanced by computer simulations. Through the use of quantitative models, it is possible to simulate items like enrollments, costs and personnel requirements under different assumptions. The range of models available is now substantial. Some depict flows of students through an entire educational system, while others are geared to institutional resource needs. The Organization for Economic Cooperation and Development (OECD) in Paris has developed a flexible simulation option model that forecasts educational outputs and demands during future periods of time. This model can also be used for sensitivity analysis; that is, for determining what the effect would be of variations in selected factors. Models such as these should be adapted or developed for simulating various quantitative aspects of the Alberta system for schooling, provincially and locally. To a considerable extent this would involve only an extension and refinement of work that has already been initiated at Lethbridge Community College and by some university and government departments.

Techniques are also emerging for the systematic exploration of social futures in long-term perspective. The best known is the Delphi technique. Essentially a refinement of brainstorming, the Delphi technique progressively sharpens forecasts by seeking agreement within a group of experts on a step-by-step basis. It can contribute much to the formulation of educational and social goals where intuitive thinking is valuable and where consensus is important. Scenario writing can be used to outline the steps through which some selected condition can be reached, and identifying some of the critical choice points in the evolutionary process. Cross impact analysis is a promising technique for considering the interactions among predicted events. The attention given these approaches should be equal to that given the seemingly more tangible quantitative simulation techniques. Even though some may think we presently lack the knowledge necessary to bring about a preferred future, the development of futures-forecasts can at least sensitize us to avoiding the undesired, to striving toward the preferred, and to extending our time horizons as the present moves more rapidly into the future.

Elsewhere in this report it is argued that studies of the future ought to be an integral part of schooling. To provide a knowledge base for such studies is another reason for seeing that an anticipatory look-out capacity is built into the planning process. And if a two-way flow of information between planner-futurologists and citizen-learners were cultivated, then the ideal of participatory planning would move one giant step closer to reality.

evaluating alternatives

Every decision-maker dreams of the day when he will be able to lay out all alternatives before action, to carry out a complete analysis of the consequences of choosing the various alternatives, and then to select the best alternative before taking any action. Like most dreams, this one dissolves when exposed to the light of day. The extent to which the decision process can be so rationalized is still limited. A high degree of uncertainty may be attached to various outcomes, and the selection of an alternative may be only a best guess based upon highly subjective judgments. Such a departure from the ideal state does not deny the possibility of planning or negate planning since the process also involves reviewing, evaluating and correcting courses of action. Even though the decision-maker may not be able to evaluate his alternatives completely in advance, he can still take action and evaluate the alternative which he has selected after it has been implemented.

Substantial progress has been made in recent years in conceptual and technical approaches to the evaluation of educational programs. Of particular interest are those that are well-suited to management decisions. These approaches emphasize the evaluation at all stages of the decision process: assessment and evaluation of the situation, of inputs, of the process of implementation, and of final outcomes. The evaluation process requires that standards and criteria for determining worth be established at all stages of the activity. These broadened conceptions of evaluation should become an integral part of the analysis required in educational planning and of the life-style in our institutions for schooling.

The efficiency objective in educational planning results in giving high priority to economic criteria in making decisions. Consequently, techniques such as cost / benefit analysis, cost-effectiveness analysis, and cost-quality studies have achieved high levels of visibility. Although these techniques can be a useful aid to decision-making, there is also a possibility that their contribution to educational planning has been over-rated. Any overstatement of the contribution of such analyses to educational planning can be attributed both to overanxious planners in search of techniques, and an overly narrow conception of the functions of schooling on the part of those who carry out such analyses. In any event, some elaboration of cost / benefit analysis, cost-effectiveness and cost-quality studies may be helpful in placing these techniques in perspective. The distinctions that are made among the three may not be universally accepted and are not presented as being definitive. However, they do serve to identify essential differences.

The general concept of cost/benefit analysis is highly rational and most appealing to the decision-maker who must choose among alternatives: array costs of a course of action on one side, its benefits on the other, and then decide on the basis of the cost/benefit ratio. Often this is done intuitively by many people when facing choices in their daily lives. The attempt to raise the analysis to a more explicit and quantified level does increase its rigor, but it also greatly restricts the scope of the variables that enter into the analysis. In order to establish a cost/benefit ratio only quantifiable variables can be considered, and these are usually expressed in monetary terms. When cost/benefit analysis has been applied to education, the benefits have generally been expressed in terms of expected lifetime earnings of individuals who have acquired particular forms of training. The cost/benefit of the training is then expressed as a rate of return on the investment in the training program. A slight variation is to determine the present value of the investment rather than the rate-of-return. It can be seen, therefore, that all cost/benefit studies share one central assumption. They all postulate a link between schooling and earnings in later life. But schooling helps people develop a variety of skills. They use these skills in their working environment as well as in many other activities. Up until now, cost/benefit analysis has been confined almost exclusively to the benefits accruing in people's working lives. If such studies are to reflect the true rate of return to schooling, it is obvious that ways must be found to measure benefits in other facets of life.

A broader range of benefits is usually considered in cost-effectiveness analysis which is applied when several methods are available for achieving the same objective. Relative costs and relative effectiveness using numerical indices of different methods–such as instruction by television and instruction by more conventional methods–can be determined and the resultant information used in decision-making. Obviously, if one of the methods has lower costs and higher effectiveness in terms of the accepted criteria, the choice is an easy one. The choice to be made is not as clear cut if lower costs are also associated with lower effectiveness. The significant contribution of cost-effectiveness analysis to evaluation is that it draws attention to the cost-dimension of the inputs which tends to be ignored in most program evaluations. It is, however, a technique that avoids evaluation of the specified objective.

Cost-quality studies focus on the costs that are required to sustain or improve the quality of programs within a system. Agreement upon some indicators of quality is basic to such studies. These indicators may range from those related to inputs, like the number of volumes in libraries, to outputs, like achievement test scores or number of graduates entering university. Cost-quality studies can be applied to a number of school systems and institutions of higher education in order to determine the relationship between various cost factors and various output measures. The almost total absence of such studies in Alberta dramatizes the need for extensive R&D to give us the know-how for evaluating alternative courses of action.

allocating resources

Strategies for the rational allocation of resources in education, particularly with respect to budgeting, have been slow to develop. Only recently has the emphasis on relating resource allocations to program objectives been imported into schooling from government and business. This general concept is embedded within the many variants of program budgeting. Although there are many limitations to the planning-programming-budgeting strategy, there are convincing arguments, even if there is little evidence, in favor of relating expenditures more directly to the objectives that programs purport to achieve. Initially, even the step of relating budgets to programs and not to objectives provides a basis for the analysis of costs, which is now not readily possible for most school districts and institutions of higher education.

Inquiries reveal that there has been only limited adoption of program budgeting by school systems in Canada and the United States, although there have been numerous pilot projects and partial usages of selected concepts. The development and trial of program budgeting through the PPBES Project in the Department of Education has focused on the development of a program structure for budgeting that permits useful analyses of costs and resource allocations. One of the 10 pilot jurisdictions involved, the County of Mountain View, is testing the feasibility of an integrated school-municipal program accounting and budgeting system.

Program budgets cannot guarantee that comprehensive planning will take place. But they do provide a strong stimulus for more intensive planning and evaluation than is now the case. The program accounting and budgeting system arising from the PPBES Project is expected to be used throughout the basic education sector by 1974. Immediate adaptation and implementation of this system in early and further education is essential to the funding arrangements envisaged elsewhere in this report, for these two phases of recurrent education. Similarly, the expertise within our colleges, institutes and universities ought to be used to review budgeting procedures in higher education with a view to developing more flexible and goal-oriented strategies.

monitoring operations

The crucial importance of an adequate information base for planning and decision-making is undeniable. Effective monitoring and evaluation of programs is contingent upon two factors: the availability of information about the educational enterprise, and a method of distributing the information. There is a self-evident need to improve both for Albertans. Some good take-off points have already been identified in the work done by the Human Resources Research Council, particularly the Holmlund proposal for development of a registry of machine readable files related to human resources.

Much of the data which is presently being collected and stored is of limited value for planning purposes. While this information does serve control purposes and provide an historical record of operations, it is seldom translated or synthesized into forms that enable decision-makers to identify trends, danger signals, or progress toward objectives. To remedy this situation, at least three concurrent steps are required. One is to develop a classification scheme that is complementary within all phases of recurrent education, and to other public services and Statistics Canada. A second is to thoroughly examine and screen the data now being collected throughout the educational enterprise. The third step is to identify the kinds of additional information that will be required for more effective planning in the future. Taking these three steps should enable us to effect some economies in data collection, to plug gaps in our information base and to better compare competing programs or alternatives.

In spite of serious shortcomings, the information base that exists for basic and higher education is far superior to that which exists for early and further education. In fact, the information base for planning further education is totally inadequate. There have been few surveys of current problems and conditions. In addition, the research on further education is extremely limited. Hunch and revelation can no longer suffice. The decisions to be taken about mature learners in the next decade are too momentous. Consequently, first priority in planning further education in Alberta must be given to the creation of a more adequate information base.

Direction to the acquisition of additional information can be given by focusing on the development and validation of indicators of performance or goal attainment. This involves an attempt to present educational statistics meaningfully, to isolate the impact of schooling on different personal and social activities, and to assess the contribution of schooling to an improved quality of life. Extension of the pioneering work on educational and social indicators by the Human Resources Research Council in *Alberta 1971: Toward a Social Audit*, and that of others noted in the selected references for this section of the report, ought to yield such data.

Information and indicators are of limited value unless there exists a systematic means for making that information available at the right place at the right time. Therefore, attention must be given to the development of procedures for regulating information flows throughout the educational system. Basic data must flow from individual institutions to various centres for processing and the results must be fed back again to the institutions. The efficiency of such a system will be greatly enhanced through the adoption of modern methods of data transmission, analysis and storage. In the design of information systems and data banks, it must be reemphasized that educational planners will need to have access to data other than those encompassed by traditional educational statistics. Determining these data requirements and the development of effective transmission systems are also high priority endeavors in preparation for improving educational planning practices.

staging

The Commission on Educational Planning was charged with carrying out what might best be described as a bridging function in planning: to engage in planning directly and also to make proposals for effective future planning. In trying to bridge traditional and emerging approaches for studying and changing public policy in education, the inadequacy of the once-a-decade commission endeavor became clearly and painfully apparent. At the same time, the ideal of participatory planning became more realistic and its application more urgent. Supporting an ideal is one thing. Drafting proposals that will fulfill the promise of that ideal is another. But essentially what seems to be needed is a responsive and dispersed, yet coordinated, planning process that recognizes the importance of consolidating certain functions and services.

legislature and cabinet

The lead roles in provincial planning are taken by the members of the Legislature and of the Cabinet who establish Alberta's broad social, economic and educational goals and priorities. Further participants include the Department of Education and the Department of Advanced Education; planning, research and development agencies; special consultants; and organized interest groups. The way in which these groups may interact in planning is suggested in Figure 15. Since planning and policy development is a continuous, complex and cyclical process, the roles of participants and channels of communication unfold and alter as issues change and opportunities arise.

For the orchestration of this process, the Legislature and Cabinet require the services of a central planning body or capability. At the same time, they will need to rely heavily on the various departments of government for planning initiatives in their respective areas of concern. The central planning body's major responsibility should be coordination, communication and consideration of provincial priorities. It must take into account various other planning endeavors and bring them together to yield an Integrated Provincial Development Plan as suggested on page 72. The central planning body could also help the government reexamine the need for planning units in its operating departments and to strengthen or disband existing agencies, or to create new ones. To fulfill these responsibilities the planning group must be directly linked to the Executive Council, and ought to cultivate feedback loops throughout the province. The sharing of information in a coordinated planning effort should encourage collaborative and correlated planning within government, and aid decisive action where overlapping or interrelated concerns exist. Moreover, it could serve as a stimulus and model for planning by school and municipal jurisdictions and institutions. Finally, the effectiveness of the planning process in the two departments of education ought to be improved by the information and resources forthcoming from such a central planning capability.

In this comprehensive coordinated approach, the central planning body should not be expected to do all the planning. It ought to be regarded primarily as a service unit providing expertise in planning technologies, and collation of information bearing on policy alternatives. It could also act as a broker in arranging for specific planning assignments. Though a small core staff is implied, needed resources and services could be acquired on a short-term basis depending upon the direction of the government's planning effort at various points in time.

Special provision for futures-study also appears advisable. At present, virtually every government department is responsible for futures-forecasting. This arrangement is not working. Concern for the future becomes lost in the pressures and grinding realities of the present. Thus, a section of the central planning body might be devoted to systematic studies of the future. Alternatively, an interdisciplinary division for this purpose might be constituted within the Alberta Research Council. Irrespective of location, the futures-unit must develop and maintain close relations with other provincial government departments and agencies. It also needs to establish close liaison with the federal government's think tank–the Institute for Research on Public Policy. And it ought to build upon the work in futures already done by this Commission and the Human Resources Research Council.

departments of education and advanced education

Albertans have begun to turn to their twin departments in education for leadership-service in planning. They apparently believe that improvements in schooling are too critical to be left to chance and to the vagaries and biases of ill-informed and narrow perspectives. Too often in the past, constraint on vision and resources has led to educational planning that provided little more than hindsight remedies for current or disappearing problems.

Figure 15
The Process of Educational Planning
At The Provincial Level[1]

Participants	Selected Activities				
	Need identification and problem posing	Goal and priority setting	Identifying alternatives	Testing alternatives	Taking decisions and establishing policy
Citizenry	†	†	†	†	
Representatives of the people:					
Legislature	***	**	*	**	**
Cabinet	***	***	*	**	***
Departments of Education and Advanced Education	**	**	**	***	*
Planning, research and development agencies	**	**	**	**	
Organized interest groups	**	**	**	**	
Special consultants	†	†	†	†	

*** major contribution ** medium contribution * minor contribution
† variable contribution, depending on issues and opportunities

[1] Adapted from J. A. Riffel, *Education Planning Reexamined* (Edmonton: Alberta Human Resources Research Council), 1971.

Meeting these expectations will require that the Department of Education and the Department of Advanced Education adopt a broad scale, open and pervasive approach to planning with all those involved and affected. Before enunciating policies that set the framework for the development and operation of educational programs and institutions in the province, inputs from the grass-roots level need to be deliberately sought and assimilated. Increased attention to coordinating such a dispersed and client-centred approach promises to diminish significantly the time lapse between planning and action, enhance the federation or partnership concept between provincial and local authorities advocated in the structure section of this report, and improve the credibility of the entire planning process.

planning unit

For the two departments to perform an expanded planning role, they need the Planning Unit identified initially on page 137. Generally this unit should have the capacity to elicit information about needs and problems from various sources; synthesize the information so as to identify probable goals and priorities; translate appropriate goals and priorities into alternate courses of action, based on technical study and evaluation; test the consequences of alternative policies; feed back data about goals, priorities and alternatives to those affected and assimilate reactions; and finally to propose desirable and achievable policy changes.

These activities would be performed by the Planning Unit within terms of reference approved by the departments' Coordinating Council, and in close collaboration with the four divisions responsible for policy development in early, basic, higher and further education. Linkage to the divisions could be achieved by having some staff holding joint appointments. Although the role of the Planning Unit is fundamentally a service-advisory one, it must be given sufficient scope to set a portion of its own mandate. Otherwise it is apt to lapse into impotency and suffer a serious loss of credibility within government and throughout the province. From time to time, the unit should be expected to jolt the departments' consciences with an exposé of an undesirable condition, and offer alternative strategies for its correction.

Among the specific tasks that should be undertaken by the Planning Unit in close consultation with the province's central planning body and other agencies are the following: projecting enrollments, interpreting manpower needs, estimating resource requirements, appraising learning resources, developing output indicators, assembling social futures-forecasts, conducting cost-quality studies, refining resource allocation and budgeting procedures, and instituting a province-wide information system.

The costs of establishing a Planning Unit may be minimized by the reassignment of personnel now engaged in planning within the two departments and in other agencies or programs proposed for consolidation in Section III. Bureaucratic build-up and personnel costs can also be controlled through more extensive use of temporary task forces, the requests for proposals strategy, and contract R & D.

research and development board

Earlier on page 138 reference was made to a Research and Development Board functioning through the departments' Coordinating Council. Its responsibility would be to parcel out provincial support for research and development in education, as well as that money which it may be able to secure from federal and other sources. To facilitate liaison with the Planning Unit and to achieve interlock with the total provincial planning effort, the executive officer of the board should be a member of the staff of the Planning Unit. To facilitate linkage even further, all support services for the board should be conceived as a division or branch of the Planning Unit and housed accordingly.

The membership of such a board ought to be large enough to reflect a cross-section of the Alberta viewpoint, but small enough to operate effectively–perhaps about 10 in number. Included should be laymen and professionals from each of the four levels of recurrent education, some client representatives, and at least one member of the legislative assembly. To ensure freshness in perspective, a system of revolving terms, which may be renewed once, would need to be devised. Other conditions of service could be similar to those for the Canada Council or the Education Council.

A major and initial task of the board would be the development of policies and procedures for the distribution of funds in consultation with those affected and involved. The original policies and subsequent revisions ought to be subject to the approval of the Cabinet Committee on Education. Presumably projects submitted by individuals, organizations and institutions will be eligible for funding on a program budget basis. It also seems reasonable to expect that a substantial portion of the money available will be allocated to innovations in the learning transaction, somewhat more sophisticated than many of those previously supported out of the Innovative Projects Fund, and to mission-oriented activities relevant to specific policy alternatives in schooling like those which were expected of the Human Resources Research Council. Because of the value attached to these two aspects of research and development by Albertans in their submissions to the Commission, they ought to be stressed in founding legislation for the board.

Some will be disappointed to find no proposal in this report for a permanent relatively independent R&D agency. The results of a few years of this approach in Canada and the United States, despite the conduct of some very commendable projects, amply demonstrate the soundness of the assumption that public expenditure on R&D requires public surveillance. To believe that the citizens of this province are prepared to have it otherwise is to be somewhat out of touch with reality. A mechanism of competitive allocation by representatives of those affected is more in tune with the times.

This is not to say that the growth of some relatively indedependent research and development agencies, or R&D units within school systems and institutions for higher education, is to be discouraged. To the contrary, it is expected that they will be cultivated–but along market-place lines. Seed money for such ventures should come from the Research and Development Board. However, these starter grants should not be given for more than five years. Following this period an agency's survival should depend on its demonstrable ability to service client needs. To the extent that this occurs, continuing financial support could be forthcoming from the ordinary sources open to those engaged in the educational enterprise and/or from performance contracts. Both these avenues for funding could be used from time to time by the provincial government to promote research and development activities related to policy analysis.

Two conditions are essential to successful implementation of the foregoing proposal. First,R&D agencies must be judged on the basis of performance rather than political criteria. Second, the market-place must not bring the R&D agency, the potential client group, and the judges in competition for the same education dollar.

local planning

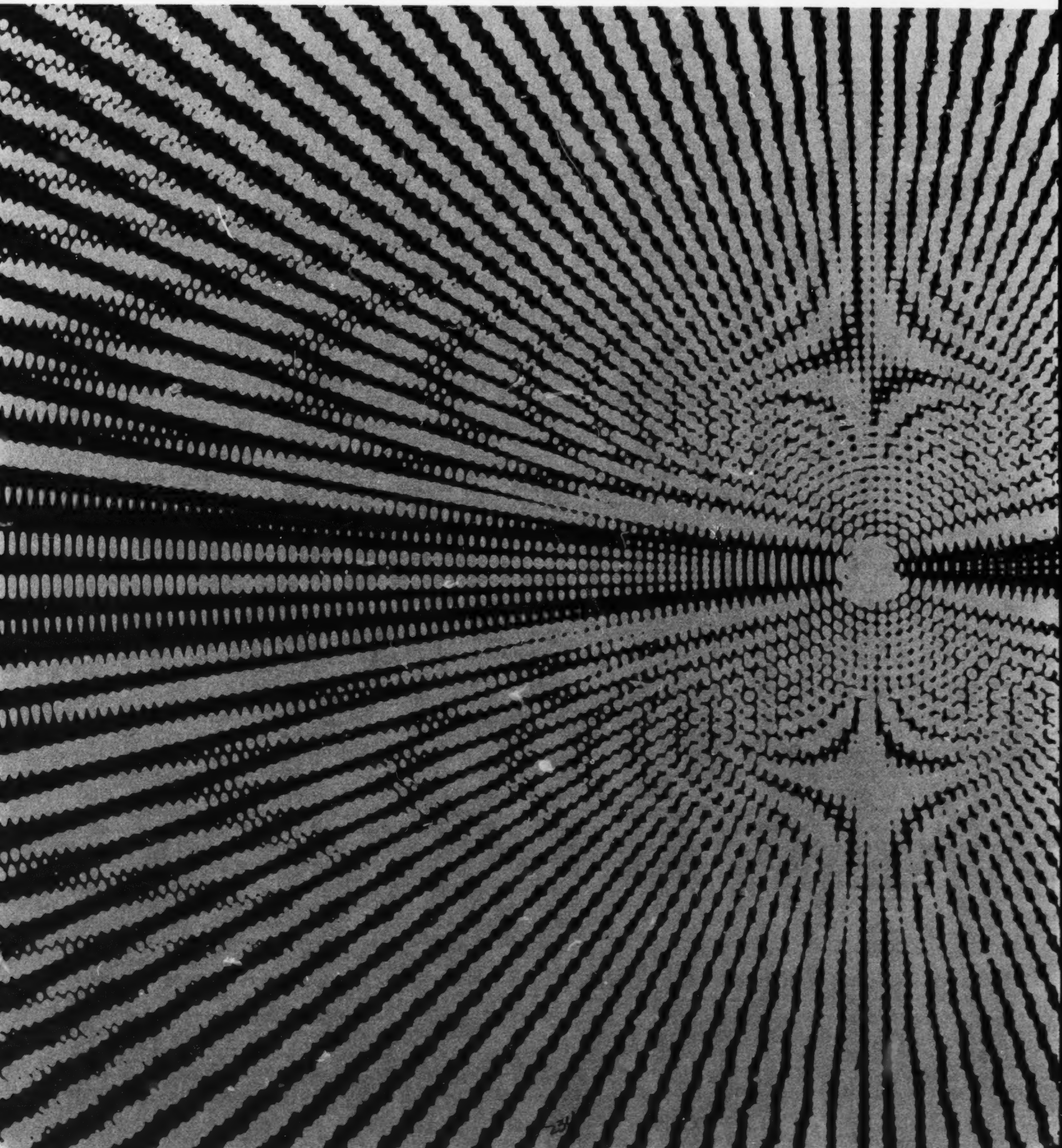
Educational planning has its major pay-off at the local level. It is in our classrooms and institutions, at meetings of school boards and boards of governors, by demonstrations and sit-ins that students, minorities and private interest groups are clamoring for more destiny control. Their strident voices often divert attention from the silent majority, many of whom have been rendered apathetic or disinterested by past lack of opportunity for convenient and meaningful participation. The Commission's call for participatory planning will strike a particularly sour note if greater opportunity for involvement only increases the negative aspects of protest and intensifies disenchantment. To offset this possibility, we must accentuate the positive in local planning. For optimism supplies the basic energy of society. Pessimism is simply a waste of time.

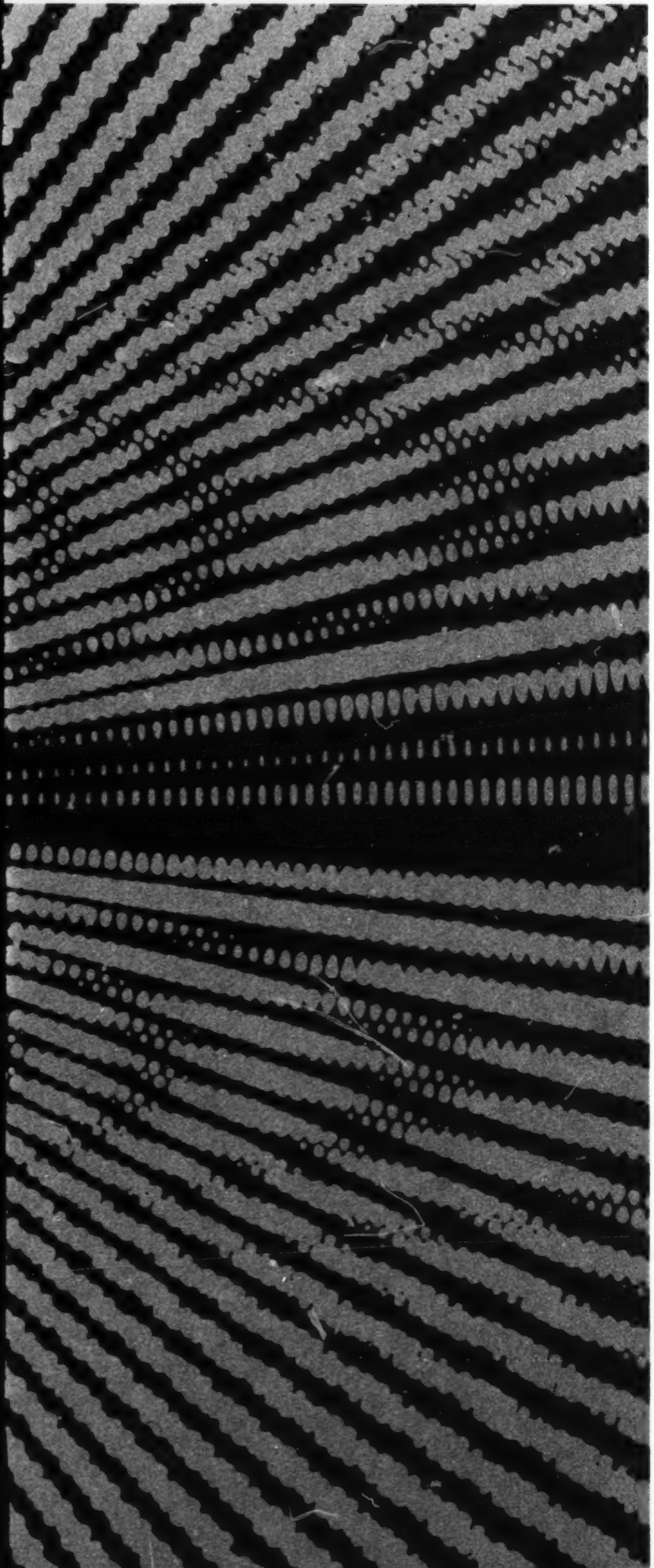
The place to begin taking a positive stance in local planning is with individual learners and groups of learners. How this might be done has been extensively elaborated in the preceding section on process. Similarly, Section III proposes variable sponsorship in early and further education, school councils and community-schools in basic education, and rejuvenated boards of governors and advisory committees in higher education to facilitate more public participation in institutional planning. The success of planning in a decentralized system for schooling will be largely determined by what occurs in specific institutions or programs. For here is where decisions are taken that strongly influence the character of the learning transaction: courses are approved, teacher responsibilities allocated, learning resources purchased, students assigned to classes, grading schemes established and more, much more. Thus, it is crucial that life in our institutions for schooling be permeated by the kind of planning orientation outlined in this report.

Regional planning is also deserving of greater attention. It should occur in at least three different contexts: in rural regions embracing a number of contiguous counties and divisions; in small-city-hubbed rural regions like Medicine Hat and Red Deer; and in the metropolitan areas of Calgary and Edmonton. In each case the aim should be to improve the quality of service by exploiting more fully all available resources. Achieving this aim demands coordination of educational planning within and among the four stages of recurrent education, and with planning of other social services.

Again, earlier sections of this report have spoken to many of the details of regional coordination: regional learning centres, one-stop regional government service centres, performance in process, to name but a few. Two other means of coordinating educational planning on a regional basis should not be overlooked. One is a coalition of interested parties organized and supported like the present regional planning commissions in the municipal realm. Indeed, bringing education within the purview of such groups is a variant of the coalition approach that has much to commend it.

A second means for facilitating regional planning lies in upgrading the planning capabilities of the regional offices of





the two departments in education. This approach appears to be most appropriate for rural regions. If it were followed, then the implementation of planning in smaller jurisdictions will not mean so much the addition of new structures and personnel as it will infusing present structures and personnel with a planning orientation, instituting necessary planning-management practices, and learning to use the information available from others.

The need for factual and analytical information as a basis for constructive and relevant public participation in local planning will become more urgent in the years ahead. Local governing boards and the provincial government have an obligation to meet this need. Fashioning an information delivery system ought to be a top priority assignment for the province's central planning body. Feeding information pertinent to schooling into the system should be the responsibility of the departments' Planning Unit and the planning components of local jurisdictions and institutions.

perspective

Much less is known about how best to carry out educational planning than the content of this section and the utterances of would-be reformers might lead us to believe. The empirical knowledge base about how to plan is scanty. Consequently, planning must be considered more art than science even though some of the technology is highly developed. The magnitude of the tasks of relating planning to policy making, of increasing the rationality of decisions, and of maintaining an anticipatory outlook are not to be under-estimated.

In order to accomplish these tasks, provisions for improving the process should be accompanied by efforts to make planning an accepted life-style for schooling in Alberta. This life-style will require continuous adjustment, careful deliberation, awareness of complexity and sensitivity to human needs. But most of all a planning life-style involves learning—learning how to plan as we engage in planning.

Resources

The changes advocated in this report call for corresponding alterations in the nature and use of the resources allocated to schooling. This means modification in conditions of service, training and utilization of personnel; variation in the form and function of facilities; diversification of learning resources; and reformation of funding and spending arrangements.

There is no denying that money–more money–will be the absolutely crucial ingredient. But probably no more so than if we were to perpetuate what we now have by maintaining a business-as-usual stance–for conventional schooling is a "rising cost industry." Its input costs for each similar unit of output follows an upward trend line. Consequently, each successive year more money is needed to accomplish the same results as in the previous year, irrespective of inflation. The major reason for these rising unit costs is the labor intensiveness of conventional schooling and its escalator-like salary structure. In times of stringency, following traditional approaches actually leads to business-worse-than-usual. Current predictions about reductions in services and deterioration in quality attest to this.

The threat of a quality crisis in schooling is as much a reflection of the way in which available resources are used as it is of the amount provided. Most of our institutions for schooling lack the capacity for self-renewal. The overpowering inertia of their structures and processes, fortified by selfish professionalization, slows adaptation to changing conditions, making them progressively more obsolete and wasteful. Thus, while the expansion and improvement of our educational system will take more money in the future, it will also demand a redeployment of our resources.

Definitive, accurate and detailed specifications for the redeployment of resources can be based only on precise knowledge of future conditions–which is, of course, unavailable. Many of these conditions await definition by the citizens of this province. Nonetheless, it is possible–and indeed necessary–to identify some policy guidelines and to speculate about their probable consequences. This will be done within the context of the Commission's earlier proposals using information and ideas derived from its public involvement and research activities, as well as the professional literature. The upshot will be the slaying of a few sacred cows and the casting aside of certain well-intentioned taboos. But this is likely the price that must be paid if schooling is to avoid resource exhaustion induced by lofty expectations and outmoded conventions.

personnel

Next to the learner the teacher is the most important person in schooling. Intuitively, though perhaps not empirically, we know that teachers do make a difference–both positive and negative–in how a learner performs, in his behavior, and in the values he acquires. If teachers did not make a difference we would be satisfied with institutions for schooling run by machines–or with no institutions at all.

Our belief that teachers must count is what makes schooling such a labor intensive enterprise. Given this condition, personnel policies and practices are of considerable significance.

Given the added condition of change, advocated in this report, personnel become crucial. The Commission's proposals for change have a common theme. They call for increasing the autonomy of the learner, reducing the dominance of the teacher, and lessening the pre-ordained structure for the learning transaction. Learners are to be given many more options as to what they will study, at what rate they will proceed, and how they will learn. The teacher is to be teamed with technology so that instruction can be tailored to the individual's needs and modal preference.

Unless corresponding alterations occur in the ways in which we prepare and employ people in schooling, this new sense of direction is likely to be lost. Different targets will never be hit–or even shot at–for the compulsion or inner-logic of the system is to reproduce itself. And business-as-usual in future schooling would be disastrous.

preparation and utilization

To change schooling is to change teachers. Evidence abounds that for the teacher, as for most people, what one believes plays a considerable part in determining one's actions. The task of preparing and utilizing school workers is, therefore, fundamentally human rather than substantive. It calls for the judicious expression of the principles of personalization, diversity, quality and efficiency.

Three general guidelines can be followed to give voice to these principles, and to ideas advanced elsewhere in this report. The first is to base preparation activities and utilization patterns on the three modes of program operation described at some length in Section IV.

A second guideline is to employ the concept of differentiated staffing throughout all levels of recurrent education. Differentiated staffing means translating the division-of-labor and specialization-by-function concepts, which have worked so well in business and industry, into terms appropriate for schooling. An essential term or condition is that staff skills match learner needs. This may sound prosaic, but it is not. It is a revolutionary condition since few, if any, of our institutions for schooling are staffed on the basis of a systematic study of learner needs. Rather they are staffed on assumed needs, unsupported tradition, and convenience for almost everyone but the clients.

Another important condition is to recognize that the knowledge workers in our institutions for schooling tend to have different job expectations from those of the manual, extractive or production worker. For them work predominantly constitutes ideas. They view themselves as intellectuals and profess to seek rewards or satisfactions from considerations other than an ample pay-cheque. Less tolerant of authority, they are suspicious of hierarchies that inhibit collegiality between people in an organization. As yet we really know less than we should about how to organize these knowledge workers, or how to evaluate their contributions and provide them with suitable rewards–either psychic or real. Differentiated staffing promises to fill a part of this understanding gap.

The benefits from differentiated staffing grounded in student needs ought to include better learning because of the broader range of manpower available and the multiple personality models provided. This range of manpower and models could include trainees, volunteers, community resource persons and learning assistants, in addition to professional teachers, administrators and other special professional personnel. Moreover, teachers are likely to be happier and experience increased self-fulfillment when we quit expecting them to be all things to all people. And, of course, the potential for accountability is enhanced when we know who is responsible for what.

Staff differentiation is already with us in modest degree. But few comprehensive models exist; particularly those that combine persons possessing complementary skills with each other, and with technology, in ways that match the requirements of learners.

It would be naive to assume that because of differentiated staffing current expenditures on staff salaries would be reduced. Payment on the basis of function implies savings in some areas and increases in others. Significant future economies could be realized, however, through an upward adjustment in the ratio of learners to salaried personnel made possible by the extensive utilization of volunteers, trainees and community resource persons. Neither personalization nor quality need suffer. Indeed the ratio of learners to personnel of all types could decrease from existing levels. Furthermore, research studies on student-teacher ratios are virtually unanimous in reporting that minor changes in this ratio, either upward or downward, are in themselves insignificant in terms of student achievement. The only effect is on teachers' working conditions, and that would be looked after by the provision of auxiliary personnel.

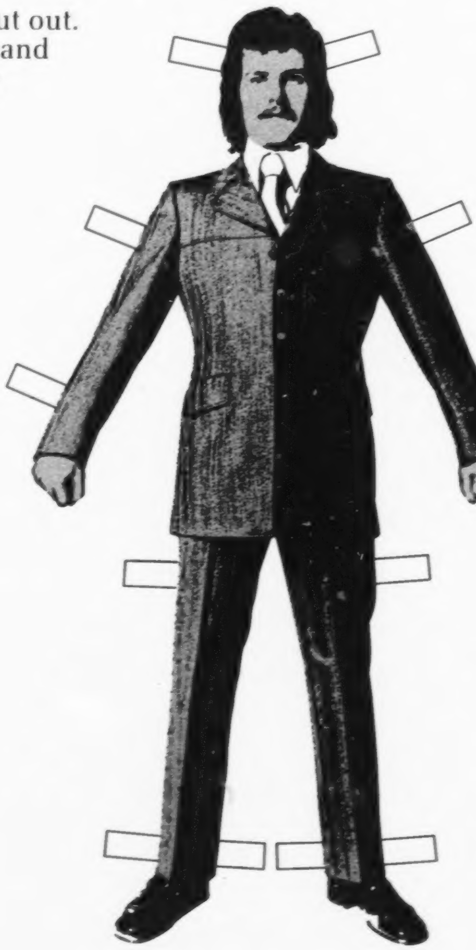
Another useful guideline is that of greater self-selection, whether for initial training or subsequent reassignment. Insofar as teacher preparation is concerned, the argument for self-selection is twofold. Past efforts to rigorously screen candidates have demonstrated that little confidence can be placed in most of the admission criteria used, or in the reliability of procedures devised for their application. Further, such screening processes involve assumptions that there is an appropriate and desirable model of teaching and the teacher is available to guide selection of candidates. In view of the futures-forecasts in Section I, which anticipate a shift toward variation in life-styles, increased tolerance for diversity, and greater emphasis on the value of individuality, the use of a single model to guide selection processes does not appear to be desirable, even if it were possible. The single model approach to selection would also be inconsistent with the first noted guideline related to the three modes of program operation.

The entry of unsuitable candidates into any occupation can be attributed, in large measure, to the candidates' lack of information about what is actually involved in both training programs and the work done by practitioners. Good counselling services can assist self-selection by providing students with a realistic picture of what they can expect in their programs and after graduation by way of responsibilities, stresses and strains, conditions of service and job opportunities. Some of this information could also be gleaned from life experience activities during the senior years of basic education. But in the final analysis, more opportunity to practice on-job behavior during the preparation period–in simulated and real situations–is the key to self-selected specialization, voluntary discontinuation, and external evaluation of competence.

But let us not overlook the factor that probably will influence our future preparation and utilization strategies more than any other–ample supply.

Over the past two decades, and particularly during the '60's, there existed a continuous shortage of educational personnel in basic and higher education. In response to that supply-demand imbalance, two actions were undertaken simultaneously. One was a crash effort to produce Alberta personnel to meet the demand, and the other was to import sufficient qualified people to make up the deficit. We have now entered an era, with respect to both these levels of recurrent education, in which total supply has caught up with and will soon exceed demand. Yet amidst this general condition of surplus, selective shortages will persist. The most serious will be the lack of teachers of exceptional children, counsellors and learning resources specialists. There will, of course, also be a serious lack of trained and experienced personnel in early and further education if the Commission's call for expansion of these two levels is heeded.

teacher cut out.
fold tabs and
try on for
size.



This overall surplus situation will afford all institutions for schooling an excellent opportunity to upgrade staff, primarily through very selective hiring policies, giving preference to qualified Albertans and Canadians. At the same time, we must guard against our educational system becoming a make-work project. Jobless teachers from primary to graduate school should be retrained to meet other social and economic needs. It is surely ridiculous to suggest that the costs of institutionalized schooling be allowed to escalate unnecessarily to solve the problem of teacher job shortage. Having made the mistake of over-enrolling in certain specialities in the universities, we should not compound the error by inflating the costs of schooling when other demands on the public purse are mounting.

professional teachers

Included in this category are those persons employed to teach in early, basic, higher and further education. Each possesses some distinctive qualification: special training, a credential and/or relevant experience. Each also tends to identify with a group of like qualifications, aspirations, ethics and conditions of service. But it is difficult to tell the players without a program–professor, social animator, trainer, therapist, instructor, guide, academic, coordinator, educator, group leader, consultant, educationist, and more. The labels are legion. The tasks are similar. Generically they are all teachers. And when they do it for a living they are professional teachers.

early and basic education

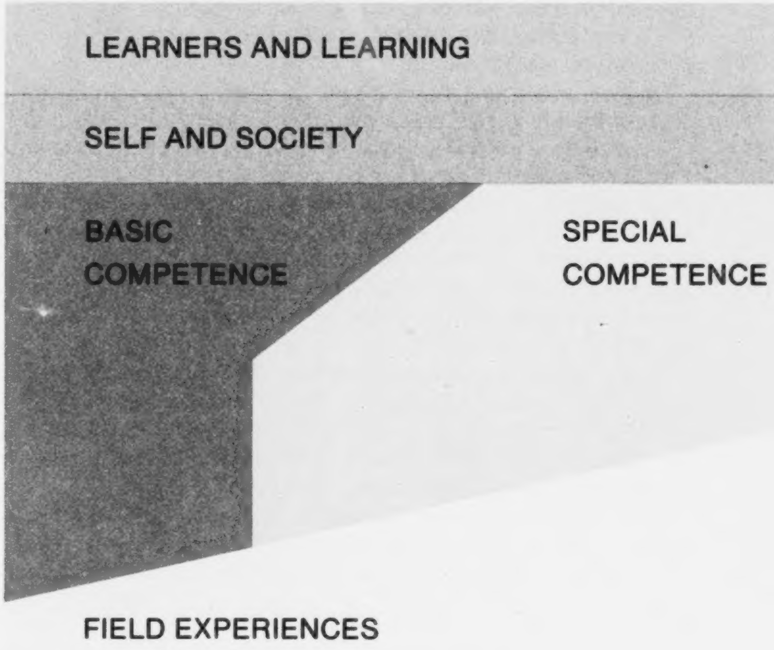
Preparation programs for teachers in early and basic education ought to mirror the principles of context and personalization. That is, they should be relevant both to current realities and future probabilities while meeting the needs, aspirations and rights of those enrolled. Accordingly, at least five major components merit attention in teacher education programs: understanding of the learner and the process of learning; understanding of self and society; basic competence in institutional, membership and autonomous modes of program operation; special competence in the area of concentration; and field experiences.

These components can and should be mixed or weighted differently in relation to the objectives of the prospective teacher and those of the training program. Generally, however, the relative emphasis on each of the five components consistent with the philosophy of the Commission is depicted in Figure 16. The nature or substance of the components can be readily inferred from the discussion of process and learning resources elsewhere in this report. Recent documents like *Standards for Educators of Exceptional Children in Canada*, listed among the selected references for this section in Appendix C also may be consulted.

Included in the preparation program should be a core of experiences or courses common to all students in the helping professions–nurses, social workers, doctors, and therapists of various kinds. Also sharing in these core experiences should be those preparing to be learning assistants, auxiliary health science workers, social service associates, and the like, in nearby colleges and institutes. Use of such a core of common learnings promises to yield at least four benefits: it will help to clarify roles and responsibilities; it will facilitate the development of collaborative skills; it will ease transfer of credits from one program to another; and it will be more cost-effective.

Figure 16

Components in Preparation
Programs for Teachers in Early
and Basic Education



The definition of areas of special competence at the undergraduate level must be expanded. Provision should be made for majors in Canadian studies, environmental education, religious studies and drug education. The various categories of exceptional children identified in Figure 13 should also be used as the basis of specialization. Similarly, concentrations in the development and use of learning resources and in counselling should be encouraged. Tomorrow's schools will need persons with these kinds of special competencies. And there is no longer–if there ever was–any justification for arguing that these competencies ought to be developed through graduate specialization exclusively. Educators have been just as guilty as those in other professions of unnecessarily lengthening initial training. Four years is ample to start with. Recurrent studies can do the rest.

Broadening the range of undergraduate specialties will take money. But perhaps not much more than is currently being spent in faculties of education to over-produce persons in many conventional majors, both undergraduate and graduate. By curtailing, cutting-back, or eliminating enrollments in specializations where an adequate supply is expected, and transferring the resources to areas of demonstrable need, cost increases can be minimized. Such planning must, of course, be done within a long-term interinstitutional framework, and be complemented by effective information and counselling programs.

Service as a trainee–or internship–should be an integral part of the initial training program, not a paste-on or additional hurdle. There are two major reasons for proposing this. One is the need to revise the time-line for learning in accord with changing conditions as argued on page 200. The other is to facilitate learning-by-doing rather than learning-by-talking in the interests of both quality and efficiency. In other words, staff in faculties of education are being asked to take to heart what they profess to know about the requirements for effective learning in the future.

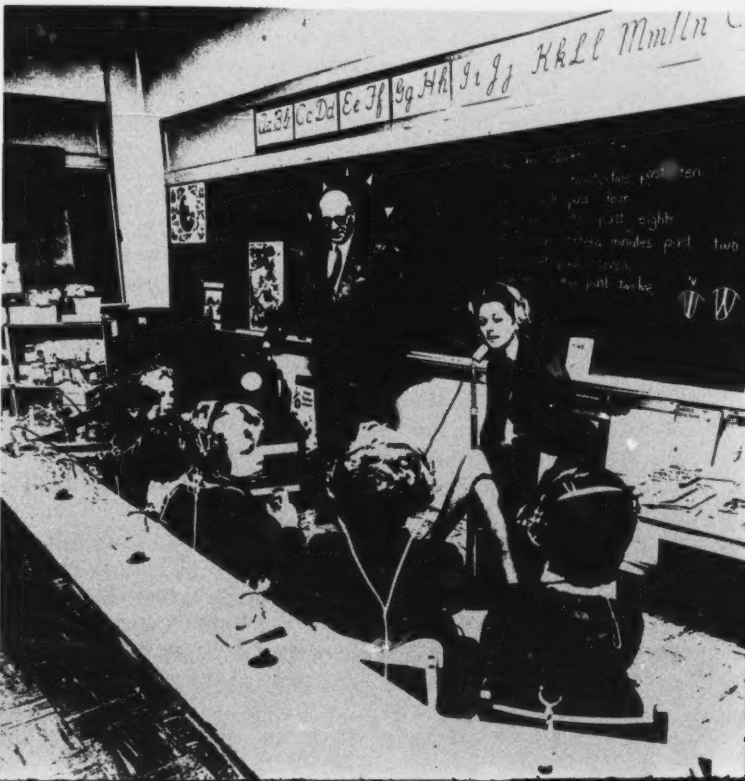
To aid learning and self-selection, internship should be preceded by a graduated series of real and simulated field experiences beginning soon after entry. For many, these field experiences will probably be an extension of some of their life experience activities during basic education.

Major responsibility for teacher education programs should remain with the existing faculties of education at the universities of Alberta, Calgary and Lethbridge, but a broader advisory structure representative of those affected and involved ought to be established at both the institutional and the provincial levels. In the latter case, this would call for modification of the present Board of Teacher Education and Certification. In addition, Athabasca University ought to be encouraged to develop innovative training programs for instructional personnel in further education.

higher and further education

In a buyer's market it seems reasonable to expect that Alberta's institutions for higher and further education will soon be staffed by persons of demonstrated ability to promote student learning and to teach effectively. But without intervention this is unlikely to happen.

Why? Because now as in the past teaching ability is usually taken for granted in hiring new staff. It is assumed to be an unfailing by-product of years of exposure to other teachers, knowledge of one's subject, research competence, occasional service as someone's teaching assistant or, alternatively, experience in performing the job or activity under study. Sometimes the by-product is a good teacher. Sometimes the by-product is a poor teacher. Most times, according



to students, the by-product is a mediocre teacher. And since students rarely have a choice of teachers, course registration seems like an academic version of Russian roulette–they pay their money and take their chances.

Improved teaching and learning in higher and further education demands that the cycle of chance be broken. And what better place to break it than at home. Competence as a teacher should become an avowed objective of any program that purports to prepare persons to assume this role in NAIT, the Banff Centre, University of Calgary, Fort McMurray AVTC, Medicine Hat College, or like institutions serving adult learners. When translating this objective into practice, we can take some cues from the way in which research competence is developed in graduate programs. Frequently courses in research methodology are required, and a thesis to test performance is usually mandatory. Teaching competence could easily be accorded similar treatment without extending the length of the training program; courses about learning and teaching for those who need them, and a practicum organized so that all may demonstrate competence. The plea is not for maverick credentials awarded on the basis of less rigorous work. Rather, it is a plea for different but equivalent programs for those whose interests lie mainly in teaching, or in a combination of teaching and research or mission-oriented activities.

The acquisition and utilization of good teachers in higher and further education will also be complicated by certain other developments. Colleges and institutes will be inundated by applications for staff positions from persons unable to find employment in a university. Many of them will not be committed to the unique mandates of the colleges and institutes. Such persons are likely to have a strong urge to modify the mandates and processes of these institutions in accordance with their frustrated ambitions, and in the interests of personal acceptance or status in the international academic community that is now dominated by the traditional university model. Such homogenization in higher education would be tragic. It must not be allowed to occur in Alberta's colleges and institutes.

A similar kind of problem is apt to be encountered by the Alberta Academy. The tutorial staff, if drawn largely from those with a traditional academic orientation, may attempt to undermine the primacy of the multi-media learning packages as is reported to be happening in connection with Britain's Open University. Under no circumstances should the Academy outposts become off-campus campuses with the learning packages used entirely at the discretion of the tutorial staff. It will be necessary to be steadfast on this matter in the face of what is bound to be Luddite outrage.

We shall also need to be firm in our commitment to quality staff in further education. No longer should programs at this level be staffed by persons willing to volunteer for overload duties in return for a modest additional stipend. Instead, teaching in further education ought to become an integral part of a staff member's total work load.

The present composition of the teaching force also has implications for future personnel policies. Teachers in higher education as a group are relatively young. Their median age is about 40. Thus, the shortage of experienced senior Canadian academics for leadership roles in teaching and learning, especially in the social and health sciences, will continue for a few more years. The youthfulness of present personnel also means lower staff turnover due to death and retirement. It will be interesting to see how well personnel procedures devised under conditions of instability and scarcity will function when these conditions are reversed. Women are currently found in the lower ranks of the professional staff, and are sometimes paid less than men in equivalent positions. In attempting to redress this wrong we may unwittingly bring another kind of bias to our staffing practices.

trainees

The previous proposal that persons preparing to teach at any level of recurrent education have practicums or field experiences, creates a pool of talent for enriching teaching and learning. These trainees should be included in the differentiated staffing arrangements developed by each institution for schooling. What this would involve is an extension and modification of many of the present approaches to practice-teaching in basic education, and the use of graduate teaching assistants in universities.

volunteers

There are several excellent reasons for proposing extensive utilization of volunteer aides, particularly at the early and basic education levels. They could relieve professional teachers of non-instructional duties, thus enabling teachers to devote more time and energy to planning, preparation and efficient performance of those duties at the heart of the teaching-learning process. Volunteers could also provide needed services to individual learners to supplement the work of teachers, and thereby make possible the personalized learning envisioned in Section IV of this report. Additionally, an active volunteer program would allow schools to tap specialized human resources in the community, which could enrich the experiences of learners. It would also help to involve the community in the educative process, promoting understanding of and support for the role of the school in the community. And it would enable civic-minded citizens to make a direct contribution to the cause of public education. Finally, another persuasive argument for the use of volunteers is the significant cost savings that are likely to be obtained.

Various types of people may be expected to volunteer their services. Some would be adults who have children in the school or who have no children of school age. Others would be persons engaged in higher or further education, or in enforced retirement. Still others would be basic school students performing volunteer services as part of their life experience program. School councils and home and school associations could be used as recruiting mechanisms for adult volunteers from the community. Individual institutions or school system central offices could seek out student volunteers. All volunteers should exhibit three characteristics: an emerging ability to work with learners, to understand their needs, and to be patient with them; a willingness to accept guidance and supervision from the professional staff; and a sense of discretion that respects the privacy and integrity of those with whom they are associated.

Some measure of orientation will be required for each volunteer. But most skills and roles will be learned on the job. Where numbers are large, or the tasks to be assigned rather complex, more formal training programs ought to be offered at convenient times by the institution or the school system.

It is envisioned that volunteers would probably serve on three bases: *regular*–those who undertake to serve on a regular basis; *on-call*–those who, due to other demands on their time, would prefer to serve on an irregular basis; and *consultative*–those who possess special skills which might be made available to a number of programs or institutions through a central bureau of some sort. Their specific duties can be many and varied. But the crucial point is that volunteers ought not to be kept out of the learning transaction. There are many supporting activities which volunteers can perform that will improve the quality of schooling–for instance, listening to a child read, guiding practice in computation, or supervising a laboratory experiment. And let those who will howl in disagreement with this proposal be reminded that Albertans value learner benefits more than teacher benefits.

Although the use of volunteers is clearly most applicable to early and basic education, this concept could and should be extended to higher education institutions, particularly the colleges. They could be extensively utilized, too, in the further education programs carried out in local schools. Volunteers could serve also as the local representatives of higher education institutions which offer programs in smaller communities for part-time students. This would apply to conventional extension efforts and, even more in the future, to various kinds of programs offered through the ACCESS network and the Alberta Academy.

community resource persons

Differentiated staffing should also include community resource persons. Although their roles and reasons for involvement may in some ways be similar to those of volunteer aides, two significant differences are visualized. One is the degree of specialization in their talents. The other is that they would be paid.

A system of recurrent education is predicated on the assumption that the professional teacher is not the only human teaching resource. Other persons, like performing artists, technical experts, professional people, men and women from business possessing special talents or knowledge, have much to contribute. The task, therefore, is to enable them to do so either on an intermittent or regular basis.

Tapping the potential of talented community resource persons is presently inhibited by regulations that bar uncertified personnel from instructional roles in schools. School authorities should be granted the freedom to employ for special tasks whomever they wish, when no suitably qualified professional, trainee or volunteer is available. This policy ought also to include the hiring of Indian and Metis personnel in native or integrated schools. All such community resource persons should be hired initially for a very limited term, subject to a favorable assessment of their performance. Both school boards and school councils would have to be accountable to parents and students for decisions to hire uncertified personnel who are otherwise well qualified. They would also have to assume responsibility for providing whatever kind of training or assistance these persons might require in adapting to their role in the learning transaction.

Most of Alberta's institutions of higher and further education have utilized community resource persons in varying degrees for many years. Indeed in this respect they can serve as a model for early and basic education. But even our colleges, institutes and universities might seek more actively to leaven their faculties with practitioners who are outstanding in their jobs and eager to bring ingenuity to bear on transmitting their own knowledge and confidence to others.

learning assistants

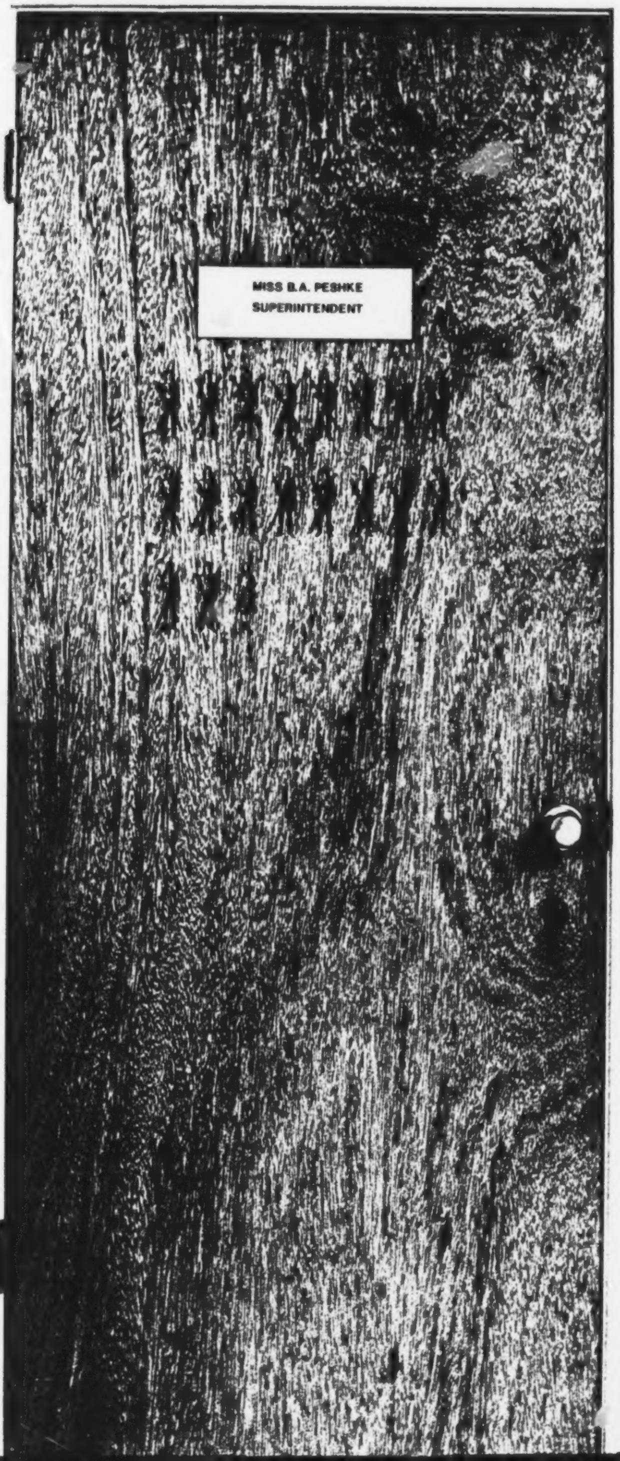
There will continue to be a need for some well trained auxiliary or associate professional personnel to support the learning transaction at all levels of recurrent education. These learning assistants will be employed as therapists for the handicapped, as learning resources technicians, as social service workers, as recreational supervisors, as life experience coordinators, as laboratory aides–as helpers in a wide variety of ways.

The employment of native persons as learning assistants is particularly important in early education and the initial stages of basic education where Metis and Indian children are involved. It is during this period that the adult's sensitivity to the needs of the child and his ability to communicate are of most significance. The adult who shares the native child's language, culture and problems can more effectively help to foster the development of positive self-attitudes and favorable images with respect to the child's membership group and cultural heritage, thereby creating a climate conducive to learning and staying in school.

The training programs for learning assistants now operated by the colleges and institutes should be adjusted to meet anticipated demands. Essentially, the components of a learning assistant's training program should parallel those advocated for professional teachers. Wherever possible core experiences, which cut across various specialties, ought to be arranged. At the same time, courses common to both learning assistants and professional teachers warrant development. The resulting flexibility and open-endedness of a learning assistant's training program will facilitate transfer to teacher education for those desiring career advancement.

special professional staff

Other sections of this report draw attention to current deficiencies and future needs in schooling that require the intervention of many different kinds of professional personnel. This intervention will occur with individual learners, with groups of learners, and through other staff. Four categories of specialists are expected to be in heavy demand: persons skilled in the prevention, diagnosis and treatment of primary learning, behavioral, social, sensory, speech and physical disorders (i.e., speech therapists, psychologists); persons adept at counselling, particularly with adults (i.e., psychiatric



nurses, social workers); persons able to develop and facilitate the use of technology in the learning transaction (i.e., librarians, learning systems designers); and persons capable of refining and applying various planning technologies (i.e., systems analysts, measurement and evaluation specialists). For reasons of efficiency, the expansion and redesign of training programs for such persons ought to be jointly undertaken by the three prairie provinces.

administrators

Until very recently there has never been any shortage of aspirants for administrative positions. Traditionally that is where the action, status and money has been. Now there is more action and less status than money can compensate for. A retreat from leadership appears to have begun among presidents and superintendents, deans and principals. And we are experiencing considerable difficulty in securing replacements. This condition threatens to continue until the roles of administrators are more clearly defined, different leadership skills and styles are developed, and enlightened followership prevails.

The value context within which these changes could occur is identified in Figure 2. Some specific suggestions about the roles and skills of administrators are delineated and implied in the sections on structure, process and planning. Against this background, it seems appropriate to prepare and appoint two basically different types of administrators–the generalist and the specialist. The generalist who coordinates policy development and decision-making requires a broad background in the social sciences as an aid to assessing constraints and potentials in the politics of education. He or she must also be highly skilled in interpersonal relations, group leadership and communication in order to be able to deal with separate factions and sophisticated data in an atmosphere of trust and understanding. The specialist administrator who facilitates the flow of technical information and action requires expertise in a particular activity or area like finance, planning, facilities, program development, learning resources, research and development. For both, however, the chief organizing element in any preparation program should be the planning function.

Because of these unique competencies, it makes less and less sense to place persons distinguished for their teaching or scholarship in administrative positions. Instructional or research talent is lost and as often as not such persons lack ability in administrative leadership.

It also makes little sense to ignore the large reservoir of latent leadership talent possessed by women. Women are currently underrepresented in administrative positions at all levels of schooling. This disparity is particularly noticeable in basic education where there are relatively few women in administration compared to the number in the teaching force. There is no evidence of either overt discrimination against, or deliberate encouragement of, women in present recruitment and selection procedures. Both aggressive self-identification by women and positive action by governing boards are, therefore, necessary to break the sex barrier in administration.

certification

Professional and occupational licensing is a widespread and long standing practice. Occupations in the medical and dental fields, law, engineering, architecture and accounting have long been regulated by licensing bodies operating under provincial statute in Canada. In several provinces there are extremely strong pressures being brought to bear on governments to grant school teachers the right to be a self-regulating profession. The Alberta Teachers' Association has been a vigorous advocate of this for some time.

While occupational licensing is invariably predicated on the need to protect the public from fraud or incompetent work, it generally entails significant social costs and it normally tends to benefit primarily those who are being licensed. Licensing almost inevitably becomes a tool in the hands of the professional group to obtain a monopoly position at the expense of the rest of the public. And the maintenance of anachronistic licensing laws serves as a major barrier to technical and organizational progress in the delivery of professional services.

In spite of these evils of licensing, the Commission agrees in principle with the contention that school teachers should be accorded similar rights and responsibilities to those of other professional groups. To deny teachers equal treatment on the grounds of incompetence or because they are public servants is to impugn their integrity and stigmatize them as second-class. And who wants second-class persons lacking integrity teaching their children?

But as previously contended on pages 136 and 208, it is imperative that policies and procedures be introduced to lessen the rigidity and better protect the public interest with respect to licensing in all professions.

Albertans, on balance, appear to be in favor of requiring the formal licensing of professional teachers in early and basic education because of the vulnerability of the learner at those levels. At the same time, there is little support for the introduction of formal certification arrangements in higher and further education. Instead, reliance upon suitable initial training, plus continuing assessments of on-job performance, is frequently advocated. This latter approach also seems applicable to special professional staff. One of the factors contributing to the current shortage of many of these allied professionals in basic education has been past insistence on dual qualification as a teacher. Such protectionism has led to deprivation not melioration. Abolition of teacher certification as a requirement, or even expectation, for special professional personnel should help to rectify this deplorable situation.

initial

It is assumed that new entrants to Alberta's teaching force at the early and basic education levels will be required to possess the Bachelor of Education degree, or its equivalent, as of September, 1973. An exception to these increased certification requirements should be made for students in those educational programs that now lead to the Conditional Certificate. It is expected that the special arrangements for such students will continue to exist in a form that reflects the increase in the general qualifications level.

Guidelines for certification based upon performance objectives and behavioral outcomes–not merely the accumulation of courses and credits–should be developed by a revamped Board of Teacher Education and Certification in close collaboration with those affected and involved. Responsibility for the administration of certification within these guidelines could then be vested in the Alberta Teachers' Association. Those deemed qualified would be recommended by the ATA for certification to the Minister of Education. Similar responsibilities with respect to decertification ought also to be delegated to the ATA.

renewal

To avoid giving incompetent teachers lifetime exposure to learners, and to encourage all teachers to keep themselves up-to-date, permanent certification should be abolished. Instead, teaching certificates ought to be issued for a term certain, 10 years being the proposed period. The present policy, whereby entrants to the teaching force must serve a two year probationary period before receiving full certification, could be abandoned when the nature and scope of the field experiences included in the initial training program serve to enhance selectivity.

Renewal of certification for a further term should be dependent upon an assessment of performance based on process-oriented criteria similar to those used for initial certification. The assessment should be carried out by the profession using criteria and procedures endorsed ty the Board of Teacher Education and Certification, and approved by government. Two key provisions ought to be the right of appeal by both individual teachers and their employers, and a commitment by non-Canadian teachers to take out Canadian citizenship.

The abolition of permanent certification should apply not only to entrants to the profession, but to all teachers in Alberta, regardless of their present credentials. This is essential in order to be fair to all members of the teaching force, and to safeguard the public interest.

upgrading

There exists at the present time a surplus in the teaching force in Alberta and throughout Canada. This surplus is expected to persist and even grow for at least the next 10 years. Because a teacher surplus rarely occurs, and because of the likely duration of one that now exists, we have an unique opportunity to upgrade the quality of Alberta's teaching force. There is sufficient support for the view that a university education makes a better teacher, to persuade the Commission that immediate advantage should be taken of this opportunity. It is, therefore, proposed that practicing teachers, with less than the minimum training required for initial certification by new entrants, be instructed to bring their qualifications up to this level by 1980.

Almost 60 percent of those persons teaching in Alberta in the fall of 1971 had four or more years of preparation. Without the impetus of the above proposal, it is estimated that about 80 percent would be so prepared in 1980. Thus, the upgrading requirement is unlikely to pose any serious problems for about 28 percent of the present teaching force who have completed at least two years, but less than four years, of university study. Its impact will be profound, however, on the 12 percent, or about 2,400 teachers, who now have less than two years of teacher education–many of whom have done very little about improving their qualifications since they began teaching. In the absence of data on the ages of teachers in this category and remembering that one year training programs ended in Alberta in 1962, it seems reasonable to assume that a substantial number of them will have left the teaching force through retirement or resignation by 1980. Others will manage to upgrade themselves to the four year level by that date. For those who remain under-qualified by 1980 at least three possibilities exist: liberal early retirement arrangements; employment as learning assistants; or change to another occupation with special provisions for retraining.

Clearly the intent of this upgrading proposal is to give us better teaching in our schools. It is not intended to launch a credit chase that will blur the vision and distort the priorities of Alberta's teachers–a chase that could result in a 52-year-old woman pursuing a course in gymnastics. If we are to get better teaching and not simply more expensive teachers, upgrading programs for older teachers must be made-to-measure or personalized. This means acknowledging the value of their experience through appropriate advanced standing; taking studies to them through the ACCESS network and the Alberta Academy; arranging special summer session activities both on and off campus; and using learning alliance, independent study and colloquium strategies to enhance the relevance of what is learned.

conditions of service

Changes in the preparation, certification and utilization of personnel, considered within the context of school year reorganization, necessitate corresponding modifications in conditions of service. Some modifications that are apt to make a difference in quality and efficiency, and which relate to major concerns of many Albertans, are noted below.

remuneration

In basic education particularly, salary scales are linked directly to qualifications level. As a consequence, some teachers are paid almost twice as much as others for the same responsibilities. Indeed, if a merit pay plan can be defined as one that compensates some teachers more than others, without altering actual teaching or classroom responsibilities, then we have actually had a perverse kind of merit pay in this province for years.

This type of differential payment was originally introduced to encourage teachers to improve their qualifications. The need for such incentives is minimal now, in view of the rapidly rising level of teacher qualifications in Alberta. If the Commission's upgrading proposals are acted upon, by 1980 qualifications differentials will become virtually meaningless–all teachers will be adequately prepared. Therefore, it is strongly urged that qualifications levels be replaced by functions as the principal factor in the determination of future salary scales. Such a shift in emphasis would have the positive effect of placing the incentive where it properly belongs, on the ability and performance of the individual. And improved qualifications would be rewarded to the extent that they enabled individuals to perform their functions more effectively or to change positions on the career ladder.

Similarly, changes must be made in the anachronistic system of almost automatically awarding annual increments on the basis of experience at all levels of recurrent education. While such increments are alleged to be related to job performance, in practice they often amount to little more than rewards for persistence. Most of the experience needed to cope with problems and improve job performance is probably gained within the first three to five years. Beyond this point, the benefits to be gained from experience probably decline sharply. Moreover, rutted or repetitive experience can become an impediment to personal development and to program improvement. The dangers of rutted experience may be avoided by salary policies that encourage both the pursuit of excellence in a given position as well as role change. This dual purpose could be partially achieved, at least, by limiting annual increments to five years, instead of the present norm of about 12 years in basic education. This is not to suggest that the maximum earning capacity would be substantially lowered for those persons who choose not to change positions or who have not the aptitude to do so. What this proposal does suggest, though, is that longevity alone should no longer be rewarded so handsomely. After five annual experience increments, a person would have to demonstrate merit in order to obtain salary increases beyond normal cost of living adjustments. No quota on the number of persons who could qualify for the merit increments need be established. For if such increments are to be meaningful and serve as a reward and incentive, they must be earned through well above-average performance, not just satisfactory or passable efforts.

An emerging alternative to traditional remuneration arrangements is that of contracting to pay teachers on the basis of results. This approach differs from the usual performance contracting arrangements with outsiders. It involves professional teachers within an institution or school system and offers a new way of providing bonus arrangements on a reasonably objective basis. Contracts could involve individual teachers or teams of teachers who undertake to help learners reach specified achievement levels. Bonuses would be paid at the end of the contract period if independent evaluators determined that the achievement criteria had been met. A plan of this type was recently instituted in the Cherry Creek School District of Denver, Colorado. Its first year of operation was considered to be successful and, as a result, the number of contracts was expanded. The results of these performance contracting experiments at Cherry Creek and elsewhere should be monitored to determine how they might be adapted to the Alberta scene. It may well be that this type of remuneration arrangement has more disadvantages than advantages, but it ought not to be discounted before it has been given careful and objective, perhaps even experimental, consideration.

negotiations

At the basic education level, contracts have been traditionally negotiated between school boards and locals of the Alberta Teachers' Association. Often, negotiations were drawn out over long periods of time before settlements were reached. The amount of time, energy and money devoted to protracted negotiations was frequently deplored both by trustees and teachers. The introduction of regional bargaining in the past year has created even more serious problems. Not only have negotiations dragged on as long or longer than before, but there have been an unprecedented number of teachers' strikes or near-strikes.

Bargaining in higher education institutions has typically been conducted between boards of governors and academic staff associations. In the cases of the technical institutes and the agricultural and vocational colleges, where the instructional personnel have been civil servants, bargaining has involved the Government of Alberta rather than boards of governors. While no strikes have occurred in higher education, lengthy negotiating periods have been more the norm than the exception.

It is quite evident that there is a need for a method of resolving contractual disputes that would retain all the advantages of collective bargaining, obviate the use of strike or lock-out action, and avoid the shortcomings of conventional arbitration. Few people were encountered by the Commission who argued for retention of the strike weapon, a blunt instrument at best where professional personnel are involved and the public interest is affected. A grave weakness in conventional arbitration is that it can, and usually does, result in a contract which is legislated by the arbitrator who is able to introduce suggestions not originating with either party in the dispute. Furthermore, the tendency of arbitrators to seek a compromise between two positions encourages both parties to adopt extreme positions in the hope of improving the saw-off. This results in the undermining of good faith in negotiations.

In the last decade, a concept known as Final Offer Selection (FOS) has been devised and refined into a system to encourage the voluntary settlement of employer-employee disputes. While meeting the three essential conditions noted above, this system serves to bring the negotiating parties closer together by placing them under considerable pressure to adopt reasonable positions so that negotiated compromise may supersede posturing for effect. The key idea underlying the FOS approach is that if two sides in dispute are unable to resolve their differences, a selection officer–drawn by lot from a panel of mutually acceptable candidates–is given the power to choose between the final offers presented by both sides. The offer so chosen is then binding on both parties without alteration.

A compelling argument in favor of FOS is that it provides both sides with a strong incentive to adopt realistic positions. Each party would be reluctant to risk a deadlock without good evidence to justify its point of view, since the other party's final offer might then be selected as the more reasonable of the two.

In FOS, the settlement is shaped by one of the parties to the negotiations, rather than by an outsider. In the event of a deadlock, the selection officer must rule either for one side or the other on the whole list of unresolved items following a period of conventional bargaining. The bargaining process is usually delimited by specified periods of time for the various steps involved, which may include the use of a mediation officer to assist the parties to resolve their differences. The internal logic and pressures of this system are such as to greatly reduce the number of unresolved issues that might require recourse to arbitration.

A Final Offer Selection procedure was introduced in 1971 at the University of Alberta for negotiations with the Association of Academic Staff, and it appears to be working satisfactorily. The Commission urges the employment of this procedure for negotiations between personnel and governing authorities at all levels of schooling in Alberta. And it need not be utilized only with respect to professional personnel. It is equally applicable to all employees of school boards, higher education institutions and other educational authorities. In addition to salaries and fringe benefits, major working conditions issues–such as employee work loads and leave policies–should also be negotiated using the FOS approach. The details of conditions of service as they affect specific individuals could then be worked out, within the scope of the negotiated agreements, at the level of governance closest to operation or performance.

Centralization of the collective bargaining process at the provincial level is also a distinct possibility for the future. *The Real Poverty Report* argues for centralized collective bargaining within and across industries to reduce income inequality. The Saskatchewan Teachers' Federation has recently asked that negotiations for a collective agreement applying to all Saskatchewan teachers take place directly between the Federation and the Government of Saskatchewan. Three reasons are given for this action: one, the provincial government in Saskatchewan, as in other provinces, has understandably found it necessary to assume a much greater share of the costs in providing public education, and the assumption of greater control of expenditures has accompanied this shift; two, the provincial government now assumes the role of employer of teachers for purposes of teachers' superannuation and group insurance–a similar role can logically apply in negotiating a teachers' collective agreement; three, the difficulties of the last few years under area bargaining are attributable to the fact that the major body in educational finance –the provincial government–was not legally a party to the bargaining process.

There are sufficient parallels in emerging developments in Alberta to justify–indeed compel–close attention to this choice of futures in negotiations too.

further education

The need for further education on a continuing basis for educational personnel is so obvious as to require no elaboration. While it is the responsibility of the professional staff member to maintain his career competence, either from self-motivation or some external impetus, it is the duty of others to provide opportunities for him or her to do so: occupational associations, training institutions, employers and government. The obligation of the latter two groups arises in connection with imposed role or program changes.

sabbatical leave

One means of facilitating further education is sabbatical leave. It is a privilege long enjoyed by university personnel and coveted by basic education teachers. Sabbatical leaves were first introduced when modern communications systems did not exist. It was, therefore, considered necessary for the scholar to travel extensively for long periods of time to communicate with colleagues in his discipline, and to search out new knowledge and skills.

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15
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FULL

The notion of a sabbatical year has recently come under attack for a number of reasons. Some argue that this special privilege cannot be justified for educators, particularly in view of their abbreviated work year. To be just and equitable it ought to be available to all members of society. Others warn that if this privilege becomes a right–like some educators wish it to be–the cost of schooling would skyrocket. Still others suggest that the returns from sabbatical leave in terms of improved job-performance have been seriously overrated. All too often such leaves have amounted to nothing more than an opportunity for a grand tour of the world at the expense of the taxpayer. Finally, there are those who are critical of the orientation of sabbatical leaves toward research and publication when what is really required for greater career competence is stress upon improvement in teaching.

These criticisms of sabbatical leave must be weighed against the special need of educators and scholars for refreshment and renewal arising from the stresses and significance of their work. They must also be contemplated against the foreground of tomorrow: a foreground that includes school year reorganization, yielding more short breaks and fewer lengthy ones, along with opportunities for very flexible staffing arrangements; a foreground that also includes a communications network and information retrieval system capable of bringing information to a person from virtually anywhere in the world, and frequent audio-visual and live contact with professional associates.

On balance it is difficult to escape the conclusion that periodic short-term leaves for further education, on the same basis as other citizens, are in prospect for educators.

tenure

Tenure of appointment is another condition of service that is relatively unique to education. While it is most obvious in universities and colleges, where it is made explicit, tenure is in fact operative in all institutions for schooling.

A serious weakness of the tenure system in higher education is that is causes institutions to support faculty it may not need or want. This deadwood problem involves either an unproductive faculty member who is protected from dismissal by the tenure system, or a teacher whose subject area is no longer in demand by students. Without a regular review of tenured members of faculty–an almost unknown procedure in

Canadian institutions–money is spent where it might be saved.

Nor can tenure as it now exists be defended on the grounds that it is necessary to preserve academic freedom which is essential to the functions of higher education. These two concepts can be separated and academic freedom can be protected in other ways. For unlike academic freedom, tenure is not crucial to the idea of the university or any other institution for schooling, but rather it is an individual privilege. This point is supported by the recognized need for academic freedom for nontenured staff.

It is also difficult to view tenure as any great benefactor of the learning transaction–for tenure is a recognition and reward of advanced professionalization described earlier on page 193. As such, it helps to perpetuate the idolatry of conventional subject matter, scholarly respectability, and the institutional mode of program operation. Indeed, cynics might say that tenure is a lifetime guarantee against having to respond to learners' needs.

Consequently, the Commission proposes that tenure be abolished and that it be replaced by limited term renewable appointments. Whatever renewable appointments system is devised, it should aim at providing due process and security, while discouraging staff from becoming smug and indifferent to the needs of both learners and the institution. And clients, as well as colleagues, ought to be involved in determining eligibility for renewal.

Coincidental with the termination of the tenure system in favor of renewable term appointments, a code of professional ethics should be established to guide the conduct–and to judge any misconduct–of staff members. Such a code could repress capricious and discriminatory actions.

Similarly, administrative appointments at all levels of schooling should be made on the basis of limited terms; five years is suggested. A limited term appointment could be renewed if this was deemed desirable both by the employer and the individual involved. A policy of impermanent administrative appointments has many obvious virtues. It would pass around the burdens of educational administration so that over a period of years more points of view would be brought to bear, more people would be involved and allowed to see schooling from the vantage point of important responsibility, and there would be less tendency for persons to become stale and inflexible in their leadership roles. Most important of all, the relatively short term would assure both the institution and the individual that there would be an honorable and humane discharge that would not imply dissatisfaction on either side.

facilities

Facilities house the learning transaction. They help to shape the interaction of people and things. And they stand in testimony to our commitment to schooling.

But in future we are likely to express our commitment to schooling in ways that will reduce both our interest and our investment in facilities. We will have recognized that the learning transaction is not bounded by current conceptions of time and space. We will pay more than lip-service to the idea that what happens is more important than where it happens. And we will not want our institutions for schooling to be deltas around which the life of the community swirls but rarely enters.

Our downgrading of the past emphasis on facilities will also reflect the confluence of a number of developments noted elsewhere in this report. For example, there will be a substantial shift in enrollment patterns. The number of students in basic education will actually decline over the next 10 years. Similarly, the rate of increase in enrollments in higher education will taper off after a brief surge. Thus the burgeoning enrollments in early and further education will be capable of accommodation, in very large measure, by existing educational and other suitable facilities in the community. The impact of technology may also be pervasive. If Early Ed, the Alberta Academy and the ACCESS network are established, and the potential of other learning resources described subsequently is exploited, the need for conventionally-sited new buildings will drop sharply. Also,reorganization of the school year and computerized scheduling at all levels of recurrent education could substantially improve the utilization of current space resources.

In this context it seems appropriate to focus attention on ideas that will facilitate action in accord with the changes and potentials facing us. Taking this approach also permits inclusion of those matters related to facilities most frequently presented to the Commission.

institution-community integration

Just as each individual has his rights, so should each community have its rights. But more important than its rights are its needs. If a community is to be a community, and not just a random collection of people and things, then it needs both the feel and substance of community living. It needs a community-life support system.

Educational facilities can be a very important part of any community-life support system–provided they are married to the feeling and substance of community-life. A marriage, in other words, of form and function.

There are a number of ways in which this marriage can be brought about. To begin with, our buildings for schooling should be designed so that their facilities are more readily accessible for continuous use by all members of the community. To date, for example, remarkably few public buildings, educational or otherwise, include adequate provisions for their use by physically handicapped persons. In order that architectural barriers will not continue to impede their access to learning, future buildings should be designed in accordance with Supplement #5 to the National Building Code *(Building Standards for the Handicapped, 1970).* But access means more than just easy entry into the building and convenient parking. It is a quality of the entire plant that draws people. It is an ease of mobility within the physical surroundings–not just an open facility but a magnetic one as well. Access is a totality of scope and execution that imbues the physical environment with a dynamic spirit and force. And to increase its attractiveness to mothers of young children it requires the incorporation of child-development or child-care facilities. Historically, we have been willing to spend enormous sums on athletic facilities, used principally by men, but have recoiled at the thought of making much less costly services available to aid women in their pursuit of greater self-fulfillment.

Consistent with the move toward more local control advocated in Section III, and with acceptance of the concept of facilities for schooling being part of an integrated community-life support system, it is only appropriate that design decisions be made at the local level. This will help to ensure that the facilities serve the needs of the community. At the same time, it can be argued that local control over design ought to lead to much more innovation and much more compelling facilities than is presently possible. Achieving these ends will require major modifications in prevailing provincial regulations and procedures. The recent decision to free Alberta's four largest school systems from room-size specifications restraints is a step in the right direction.

The concept of local design control appears at first to run counter to the modular or standardized component approach to cost-saving in construction typified by Metropolitan Toronto's Study of Educational Facilities. To make this kind of production line system work in its present stage of development requires a large volume of construction, and a willingness to tolerate a high degree of visual monotony or shape pollution. As the modular component approach becomes more flexible and sophisticated because of widespread use throughout the construction industry, however, the likelihood increases that its benefits can be obtained by local authorities.

If increased costs should stem from the local control over building design approach–although there is no evidence that this would necessarily be the case–they might very well be offset by the greater flexibility and accessibility of the facilities. And that is probably an opportunity cost which many Albertans are prepared to bear.

The physical division between school and community is already being bridged in Alberta. A recent government publication entitled *Share It* attests to this. But if the community-school is to develop from a promising vision into a viable reality throughout this province, it is essential that more initial planning be undertaken on an integrated basis. Physical facilities planned from the outset to couple schooling with other social services stand a far greater chance of being

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successful than those that are designed to serve only the educational needs of the community and then attempt to provide other services as an afterthought.

To encourage the integration process so that each school becomes the cultural, social, recreational and educational heart of its community, a moratorium might be declared on the construction of any building, such as a community hall, local health clinic, swimming pool or library which would sit in isolation in the community, unlikely to become an integral part of the community-life support system. Three important benefits are likely to accrue from such spatial integration: reduced capital and operating costs; improved community attitudes toward schooling; and increased use of the total services approach to meeting human needs.

The integration of school and community need not be limited to the inclusion of other public services and community activities. Space could also be provided on a lease basis to community-oriented businesses, such as banks, food markets, beauty salons and drug stores. Special provision might even be made for restaurants to serve the public and the school. The incorporation of commercial enterprises into community-schools would do more than draw adults into the facilities on a regular basis. The rents paid could be an important source of revenue for school boards. Also, these close-at-hand commercial enterprises could be a ready source of life experiences for learners.

Students' unions at some institutions for higher education have already been instrumental in bringing commercial enterprises on campus. It is time the governing boards got into the act as well. Boards of governors ought also to seek new ways of opening up the facilities of our colleges, institutes and universities to the broader community. For example, the campuses of these institutions could be used as summer vacation camps, particularly for exceptional and disadvantaged children and youth. In addition to making use of available residential, recreational and learning space, such programs would have the benefit of making higher education institutions familiar to many persons who might otherwise never come to know them. Among the disadvantaged and the handicapped there is often either total ignorance about these institutions, or a distressing atmosphere of distrust and hostility toward them. Making facilities available during the summer months for organized activities for such groups would help to break down distrust, create a sense of affiliation, and spur ambition.

The notion of integrated planning proposed for community-schools also applies to colleges in relation to their development function. A good recent illustration of how this can be done is to be found at the Grande Prairie Regional College where the need for physical education and recreation facilities in the community was reviewed before final plans were completed.

There is, of course, another means of institution-community integration–taking schooling into the surrounding community. Many, many suggestions for doing this have already been given in this report. But perhaps two further illustrations directly related to facilities are pertinent here. One is the twin set of imaginative proposals at the schematic stage of development by the Calgary Public School Board: an inner-city learning model and the South Beltline Project. The first of these proposes that space be acquired in commercial and government buildings in order to create a number of learning centres of varying sizes dispersed throughout the downtown area of the city. The second, using the same basic concept, makes specific proposals with respect to two older inner-city districts, and suggests that the learning centres be located on or near major public transportation arteries to maximize their accessibility. The other notable illustration comes from Montreal and is described in a publication entitled *Metro/education*. It, too, aims at harnessing the hitherto ignored potential, both physical and human, of the city centre environment through the use of available space in buildings adjacent to the central corridor of the metro subway system.

These approaches have a great deal of merit for our two metropolitan centres. Indeed, if facilities for learning are to be located in or near rapid transit stations, then consultations had better begin immediately in Calgary and Edmonton between appropriate educational and municipal authorities. And shortly thereafter the provincial government must be brought into the picture.

flexibility

No matter how much schooling may change through the years, at its core will be people wishing to communicate with people. Traditionally, we have provided classrooms for this purpose. Most of them have been standard boxes connected like railway coaches, their interiors often no more attractive and sometimes no less confining. This linear box-like arrangement is slowly giving way to places where comfort and freedom are companions of learning. These places are being clustered to enable the quick assembly of larger and different spaces as needs change from day to day, hour to hour.

Spaces where people deal with people, where teachers and learners hammer out the values implicit in a matter, are easier to design than are the facilities in which learners work with things–for we do not know now what tomorrow's thing will be. What, for example, will be the effect of communication by laser on building design? What kinds of energy will have to be piped to what machines not yet invented? About all one can say for sure is that schooling cannot be sure. We should, therefore, plan all our buildings to be rearrangeable, with wall, floor or ceiling providing an arterial system for present-day utilities and the space through which new lines of energy may some day be run.

We can also hedge our bets against obsolescence induced by advances in educational technology and changing community characteristics by lowering the degree of permanence in initial building. Present construction standards give the impression of encouraging a measure of over-building. That we have done so in the past is evidenced in the current difficulties being experienced in upgrading fortress-like schools in older residential areas. It seems like the better part of wisdom to bring the degree of permanence in facilities for schooling into line with that of most industrial construction–a life expectancy of 20 to 30 years. The application of such a guideline appears particularly pertinent in rural Alberta where the long-term future of many smaller communities is in doubt.

To further maximize flexibility more use ought to be made of relocatable buildings. Although well-designed permanent space permits adaptation to changes in program and group size, it does not allow for reduction in the total number of students in attendance. If relocatable buildings make up a proportion of the total space inventory, they can be shifted to new sites or be sold when they become redundant. This is not a new idea. Portable classrooms have been used in basic education for years. But it can be extended to include demountable gymnasiums, such as the Edmonton Public School Board has recently located at five schools that are expected to be phased out within 10 to 15 years. Our higher education institutions have also used temporary structures to meet rapidly rising demands for space, but their intention has been to take them out of service at the earliest possible time. They should be encouraged, instead, to maintain a proportion of their space inventories in relocatable buildings on a continuing basis.

A novel and inexpensive form of temporary space is the inflatable plastic air-support structure which is becoming increasingly sophisticated. Costing one-third to one-fifth as much as conventional buildings providing the same space, they are very durable and easily movable. A number of these bubbles are now in use at educational institutions elsewhere, and many more installations are proposed. Heating units have already been developed to handle a differential of 80 degrees between the inside and outside temperature. Others that will increase the temperature differential are on the way. Soon this type of structure can be seriously considered as a temporary space alternative by Alberta's institutions for schooling.

Temporary facilities are also very useful in coping with the problems posed by the slow or sporadic development of new subdivisions in large urban centres. To build a permanent structure in a partially developed district means acceptance of under-utilization for a period of time. And there still remains the strong likelihood that the building may turn out to be mis-matched to community needs because it was planned and built before adequate information was available. Another alternative is to transport children to existing schools that have space available. Frequently, the available space is some distance away as schools in adjacent subdivisions are operating at capacity. Transportation tends also to be unpopular with parents. Still another alternative is to build a small school, and add to it as the community grows. This is, undoubtedly, the most expensive method of construction. The most satisfactory solution is to provide flexible immediate accommodation through the use of portable classrooms linked with temporary core facilities, all of which can be moved to another location after a permanent building suited to discernable requirements has been completed.

Leasing instead of purchasing space is one more way of keeping our options open. It also ties up less capital. Yet almost without exception the prevailing practice at all levels of recurrent education is to own the facilities occupied. This practice can be dysfunctional in three ways: conversion to new uses is often difficult and expensive; excessive growth on restricted sites is encouraged; and spurts and shifts in enrollment are difficult to accommodate.

The use of lease space is particularly appropriate in higher and further education, because programs can then be dispersed throughout the wider community. For instance, the University of Alberta might rent suitable existing space in vacant office buildings and industrial plants away from the main campus in Edmonton; colleges might lease facilities for technical programs from under-utilized vocational high schools. All higher education institutions in Alberta should review their projected building programs in the light of such possibilities. Upon review, it might even be decided to adopt as policy the maintenance of a certain proportion of their space inventory in leased accommodation. Indeed, the time may come when it would be appropriate to establish a type of Crown corporation to obtain, hold and lease-back space to educational authorities at all levels of schooling.

The use of leased facilities is also admirably suited to the conduct of the life experience activities visualized earlier in the process section. When the facilities of business, industry and government are used for these activities comparable institutional space would not be required. Moreover, it is probable that the rental charges–if there were any–would not be prohibitive since such facilities would be serving a productive as well as a learning purpose.

land

At the present time, school boards must pay surface improvement charges and development agreement costs on school land. Municipal authorities do not face these costs with respect to community parkland. To correct this inequity, legislation should be altered to make developers responsible for such expenses for all forms of public reserve land.

The amount of public reserve land should also be increased in order to meet properly the space needs of school boards. Present policies make inadequate provision for separate school requirements. In Edmonton, for example, 52.5 percent of public reserve land goes to the public school board, 17.5 percent to the separate school board, and the remaining 30 percent is dedicated to parks and recreation areas. It is only reasonable that the separate schools receive land on a basis proportional to that of the public schools. This is not to suggest that the present amount of land be divided differently. Instead, the total amount of land ought to be increased and the separate school board given its fair share.

Another difficulty and injustice occurs in situations where governing boards must purchase land in developed areas. Where land that is to be developed for educational purposes is privately held, there is little question that the real estate market should determine the price. But it is quite another matter in cases where the land in question is owned by the municipal authority. It should be mandatory in such cases that the land be sold to governing boards at cost–not at market value. Today, this is a problem for separate school systems that are organized after a community is developed. Tomorrow, it must not be a problem for them or for any other group wishing to extend educational services.

learning resources

Instructional resources are not just tools for the teacher, they are tools for the student as well. The prevailing notion that students learn only what the teacher teaches is quite ridiculous; unfortunately, this notion seems to be shared by nearly all parents, most students and too many teachers. Whatever a student learns, he learns on his own–no one else can learn it for him. And the first duty of the teacher is to suffuse each student with confidence in his own innate ability to learn. Therefore, the teacher will require considerable skill, a great deal of human understanding and a wide range of learning resources. In this sense the term learning resources is preferable to instructional resources.

Learning resources abound in our province, but many of them have still to find their way into our schools, colleges, institutes and universities. Schooling is the beneficiary, and sometimes the victim, of a simultaneous revolution in both the content (software) and technology (hardware) of communications. The result is that we are surrounded by learning resources–and more are on the way. Picturephones, direct satellite transmission, wired cities, video-printers, touch-tone retrieval, pocket computers, electronic tutoring, interplanetary television–all are now possible. But beware of the word possible, since it is not synonymous with practical; which is not, in turn, the same as desirable, or even affordable. Nevertheless, it is becoming evident that the deschooling of society has already begun and that transportation is being replaced by communication.

This revolution in communications is both fascinating and frustrating. For every piece of software or hardware that is ready today there is a better piece that will be ready tomorrow, and a still better one that will be ready next year. Often the hardware that is ready now sits waiting for next year's software, like a pen waiting on someone to invent ink. Consequently, those responsible for planning and purchasing learning resources find themselves playing a waiting game that grows more bewildering each day.

just add a student
net wt. heavy
just add a student
net wt. heavy
just add a student
net wt. heavy

Sometimes it seems as if the commercial suppliers of learning resources are more interested in adding to this bewilderment than in clarifying it. The wise men of the market place know that purchasers tend to be dazzled by low initial costs and forgetful about high continuing costs. So–give the razors away and reap profits from the blades; sell the cameras cheaply but charge plenty for the film.

To underscore the educational predicament, consider this example. EVR (Electronic Video Recording) is the trade name for a new device that plays back a special miniaturized film through a home TV set. The patent-holder controls all processing rights to the special film. Many educators are especially excited about one particular feature of EVR. In addition to playing moving pictures, it can display any single frame of film in stop motion, with 90 second access. A standard 8 inch film cartridge for this machine can store 180,000 single frames.

Since an ordinary classroom filmstrip contains about 40 frames, a single EVR cartridge could handle a very considerable library of them–about 4,500. The temptation at this point is to unleash a string of superlatives describing a revolution in learning materials. A magic cartridge for every classroom. Better yet, one for each child to use at home on his own EVR player.

Desirable? Almost certainly. Affordable? Almost certainly not. Today's filmstrips average around $8 each, and their price is in no way related to the few cents worth of celluloid and processing required to produce them. The great bulk of that price is attributable to copyright clearances, residual production rights, sales costs and profits–not to material expenses. At equivalent mark-ups, that cartridge full of filmstrips would sell for around $36,000. Certainly we could expect the rights-holders to take less than full mark-up, but how much less? Half? Quarter? Even at one tenth of today's going price, most administrators would be afraid to take such a cartridge out of the safe.

One of the very important tasks of the Planning Unit proposed for the two government departments in education would be to analyze, systematically, the price and promise of new instructional technologies, and make recommendations concerning their most efficient and effective introduction.

The new technologies have generally been used as paste-ons to traditional methods, not as alternate solutions to the basic problems facing schooling. These technologies, in the hands of teachers and administrators skilled in the design of learning systems, are promising means for coping with tomorrow's imperatives in schooling. In Alberta, as in the rest of Canada, we must decide first what needs to be done, then look upon the new technologies as one means of achieving these priorities. Too often we bring in the technology first, then look for something it can do.

While we are employing these technologies, however, it is hoped that planners and administrators will benefit from the experience of cake-mix manufacturers. These firms discovered that housewives bought more cake-mixes and were happier with the results when they could add something of their own to the product. The same approach should be taken with teachers, who will be much happier with learning technology if they can add their own egg.

educational television

Educational television is a carrier system capable of delivering many other technologies–film, slides, print, tapes, records and a variety of special effects. It is, therefore, one of our most flexible learning resources.

In order to implement fully the Early Ed and Alberta Academy programs proposed earlier, and in order to provide foundation programming for basic and further education, a province-wide educational television network should be established as soon as possible. Preliminary cost estimates have been included under the ACCESS (Alberta Communications Centre for Educational Services and Systems) in Table 6.

The leasing of commercial time on existing Alberta television stations might allow some additional educational programming to be delivered to Alberta's classrooms and living rooms. But this strategy would be both inadequate and discriminatory. The capacity of these stations is severely limited by both network commitments and commercial competition; the evening hours desirable for adult programming are both highly scarce and highly expensive; many of those Albertans who most need educational opportunity do not receive these stations anyway. Further, a recent survey shows that not enough stations are willing to lease time to form any meaningful network.

Similarly, while cablevision facilities will soon abound in our province it will be many years, if ever, before they reach hundreds of Alberta's villages and hamlets, much less the homes of those who live on farms or in the isolated regions of the province. For these reasons, and because many will not be able to afford subscription fees for cablevision, it is necessary to begin establishment of a provincial educational broadcasting network.

Any provincial educational broadcasting system should have two levels of development: central, and regional or local. The government-sponsored Alberta Pilot Projects for Television in Education, which began in 1966, provided the stimulus and the framework for such regional ETV operations as MEETA (Metropolitan Edmonton) and CARET (Calgary and Regional) and also launched a number of institutional projects which then were combined into the province's present video tape network. The activities of the public and separate school systems and the technical institutes were coordinated so that cooperative production and shared facilities are now commonly employed; these operations will integrate well with the central broadcast network this report calls for. However, the universities and colleges, with minor exceptions, did not follow this coordinated pattern, preferring to develop their own facilities for their own distinctive needs, without much reference to either a provincial or an interinstitutional role. Only recently has exploration begun regarding coordinated development among colleges and universities, and most of this has been confined to certain departments and faculties.

Originally, the University of Alberta saw MEETA as a means of enlarging its campus boundaries to include a region of 7,500 square miles. But the university did not follow through with this objective and has not been active in Channel 11 programming. Meanwhile, the University of Calgary wished to reach its regional audience as well, but CARET's delivery system was city-bound. The result is that while both MEETA and CARET once had regional aspirations, they have remained city-directed systems–in the one case because they lacked regional resources and in the other because they lacked a regional delivery system.

While their urge to grow may be strong, neither MEETA nor CARET have the proper membership base upon which to build either a regional or a province-wide service. They should instead concentrate upon the distinctive needs of their respective cities–which are regions in themselves. Since these needs can be served by a cable delivery system nearly as well as by broadcasting over the open air, and since inexpensive access to cable is available, MEETA and CARET should direct their activities towards cablecasting. The Department of Education and the Department of Advanced Education should offer to assimilate the present MEETA and CARET broadcast facilities, and most of their skilled personnel, as the first provincial move towards establishing the ACCESS broadcast network. The two departments already hold the majority equity in both systems.

IT'S ACCESS TIME!

CARET and MEETA might then continue without regional aspirations as strictly city-based systems, programming for the cable system and negotiating the use of the education departments' production facilities. Under this arrangement, the departments in education would no longer be corporate members of CARET and MEETA, nor would the rural school boards. Hopefully, however, the colleges and institutes would continue their membership since they have much to gain by allying themselves with both urban school systems and universities. The ACCESS network, in turn, would provide the total province, including Calgary and Edmonton, with general foundation programming at all levels of schooling.

While the universities might still wish to participate in the city aims of CARET and MEETA, they should direct their major ETV efforts in another direction–inward. Cooperative production of credit courses for use on university campuses and for distribution through the ACCESS network is essential.

The universities should also establish meaningful ETV liaison with the colleges and institutes, and investigate possible working relationships with two other groups: community cablevision and agricultural extension. Community programmers are now assured access to local cablevision channels by a CRTC (Canadian Radio-Television Commission) recommendation. Several media cooperatives have sprung up in Alberta to aid community programmers in their utilization of cablevision channels. The prospects for informal education, social action, community news and citizen participation are exciting indeed, but community programmers lack one important constituent of their dream–they do not have production facilities. The universities, on the other hand, do have production facilities–there are several major studios and a number of portable facilities on the campuses of both the University of Alberta and the University of Calgary.

The Department of Agriculture is now dealing with its commissioned report *Tradition and Transition.* While this report has been the subject of some controversy, there has been little criticism of its recommendations concerning the greater use of media for extension purposes. The report urges the establishment of a sophisticated TV production unit by the Department of Agriculture and suggests that it be housed at the University of Alberta. The suggestion of location is a good one–but why not share facilities rather than construct new ones? And then why not link them, perhaps, through SAIT, to Olds College which is envisioned as the major centre for further education in agriculture?

As mentioned earlier, the introduction of cablevision to Alberta has provided a valuable adjunct to educational broadcasting services, especially in the metropolitan areas. Current estimates indicate that by 1975 about 80 percent of the province's population will be within service range of coaxial lines. These lines, in addition to having the potential for delivering more television channels than we are likely ever to use, can also provide many other services, such as shopping facilities, facsimile newspapers, banking services, computer access, surveillance, and many types of information retrieval. Four-way communications will be possible: from head-end to subscriber, from subscriber to head-end, transmission from one subscriber to another, and reception of one subscriber by another. While the implementation of these services can be extraordinarily expensive–and they raise many regulatory problems–there is no doubt that some of the concepts of the wired city will be brought into play during the next decade, probably according to their merchandising potential rather than their social potential.

Under an agreement negotiated with the CRTC, the provincial Department of Education has free access to at least one channel on every CATV system in the province. Eventually this channel will benefit the ACCESS network, whether as a means of providing repeat showings of open air broadcasts or as traffic space for computer services–or both. It is suggested that, in the meantime, the Department of Education allocate these channels to local educational authorities, or to cooperative bodies that represent local educational authorities in concert. The department could guarantee meaningful cable access to these bodies in perpetuity, since eventual government use of the channel would not occupy its full capacity. In this way, local authorities could determine their own educational needs, draw on program packages and learning systems from the provincial authority, and develop their own communications priorities.

There is no longer any reason to question whether television can serve as an efficient tool of learning. In the hands of competent, creative people the evidence is overwhelming that it can. Alberta has a core of such people waiting to implement television on the scale it deserves–and requires. This is not to suggest that television must be used in all learning situations, but rather that it offers alternate solutions to many of our current and future problems in schooling. The Early Ed and Alberta Academy proposals put forward in this report represent two such attractive alternatives to existing strategies.

Television may also serve as the principal means of introducing program change in basic education. We can no longer afford, nor have we ever been able to afford, to wait 10 or

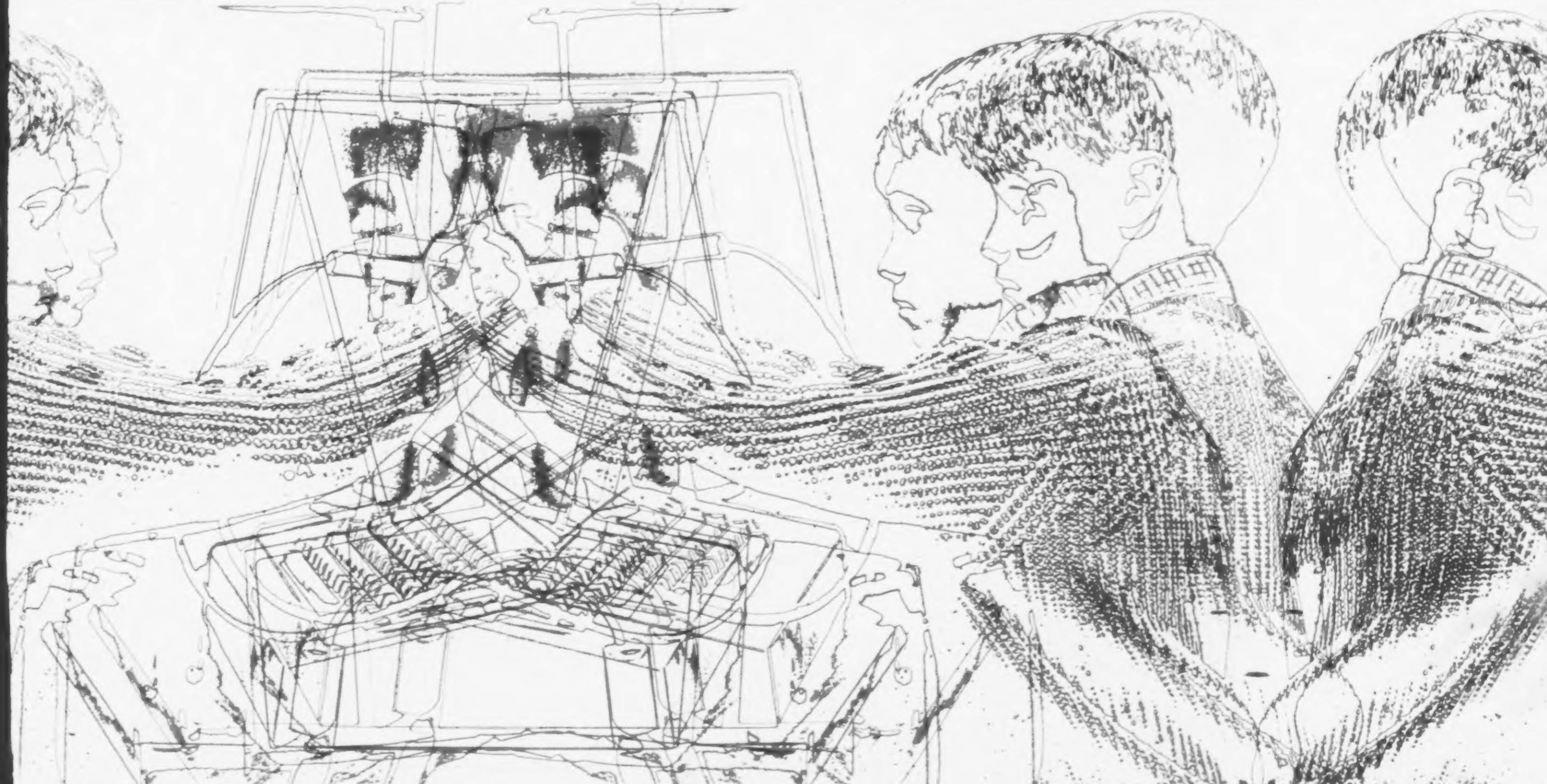
15 years for program innovation to filter down to the level of the learner. While this report does not contain a neatly-tied, acronym-studded package for program innovation in basic education it shouts, nevertheless, for the use of television broadcasting to introduce to teachers, and their students, the imperativeness of change.

It is not difficult to speculate on other uses of educational television. Our recent recognition that most learning occurs away from the school certainly underlines the strategical need for a television delivery system that can reach into homes. Our forecasts concerning changes in the family unit, increased leisure time and mounting tensions in intergroup relationships, demand that television be employed–whether as a means of adaption, or of intervention.

computers

Forecasts given in Section I indicate that by 1990 computer-assisted instruction will be a major learning resource in the schools, colleges, institutes and universities of the province. Common usage, however, will begin in the late '70's. Introduction will begin at the higher education level and move downwards. Before this forecast can become a reality, however, three notable developments must take place: hardware costs must be lowered, better programming techniques must be developed and, as noted in Section IV, learners must be allowed access to the machines.

The most comprehensive cost analyses of computer-assisted instruction (CAI) have been done in the United States. Disregarding relative effectiveness, authorities have estimated the present, typical cost of CAI at the basic education level at $3.70 per student-hour. Present average costs of traditional instruction in basic education in Alberta are about $0.90 per hour. For higher education, however, American studies estimate present typical CAI costs at $2.60 per student-hour. In Alberta, present traditional instruction costs in higher education are about $3.00 per hour. Projections indicate that CAI can be made economic at all levels of schooling if maximum allowable costs are considered in future hardware and development. The most advanced CAI system under development anywhere in the world is the PLATO IV system at the University of Illinois. It will include



4,000 terminals, serving both basic and higher education, at projected costs in the range of $1.10 per student-hour. All estimates include both hardware and software.

When computer specialists talk about maximum allowable costs they are talking about certain economies of scale that can be realized from computer installations. An analysis of Alberta's deployment of computers in higher education will make that point. At present, these institutions house some 54 computers, 42 of which can be found at the universities of Alberta and Calgary. Some of these computers are teamed in computing centres; most of them, though, are individual installations. Thirty-one of these computers can be described as quite small, a capacity of 8K or less. The economy of scale that applies to computers is sometimes known as Grosch's Law. Grosch's Law says that the ratio of the power of two computers is approximately equal to the ratio of their costs squared. In other words, two computers each renting for $6,000 per month would together possess only half the power of one that rented for $12,000 per month.

While this economy of scale applies only to the central memory units and not to accessories and personnel, some startling economies are possible in the purchase of very large computers—relative to the power of smaller units. For instance, while a model 75 IBM rents for about 10 times the cost of a Model 30, it has roughly 100 times the speed, and costs about one-tenth as much per unit of capacity. Such economy of scale makes an extremely strong argument for having more clients share fewer, but larger, computers. In fact, computer time-sharing is now the accepted business norm. Only in exceptional circumstances are fixed computer installations in the smaller range a sensible investment. Alberta's institutions of higher education do not exhibit that many exceptional circumstances, and should re-align their computer power towards greater time-sharing.

At present, nearly all of the computer power available to Alberta educators is being used for management purposes. Most of the remaining power is employed for research by professors and graduate students or for the teaching of computing science. Very, very little power is going into instructional strategies. Only a handful of undergraduate students have access to computers even for computational purposes. The Edmonton grade school project employing CAI was closed down last year and there are few remaining instructional applications in the province. The most notable is the relatively small but internationally acclaimed CAI project at the University of Alberta, mainly in medical education. The University of Calgary has a small experimental CAI unit as well. Computers tend to preside in hushed, air-conditioned crypts, attended by awed technicians who behave as though they were members of a cloistered religious order. One way of destroying the big brother aspect of computers that many find so frightening is to let ordinary people at these machines —or at least at their terminals.

Computer assisted instruction is the general term used to describe any highly interactive system between a learner and a computer in whch the instructional strategy is modified according to the learner's responses. Such a dialogue between human being and machine offers us the potential to revolutionize many of our methods of individualizing learning. While some critics predict that a morbid bond could develop between the pupil and his plugged-in partner, there is some evidence which suggests that CAI need be no more brutalizing than working with an adding machine or enjoying the feedback from a player piano—both of which are computer-like devices. We know for sure that machines, in themselves, are value-free. It follows that if computers are programmed humanely, and employed in responsive, non-threatening learning environments, they could help make schooling more humanizing than it presently is. If schooling is dehumanizing its clients right now, the blame lies with the children of Adam, not the products of Thomas Edison.

One particular application of computers to schooling is urged for the joint benefit of both learners and administrators. This is the technique of simulation. In the process section of this report, it is noted that learners need to explore, to seek, to test. It should be added that the administrator, too, is a learner and he has need to engage in the same exercises. Both the learner and the administrator explore and seek through a combination of logic and intuition. But when it comes time to test they frequently have only one means of doing so—they put it into practice. If the trial is an abstract one, then perhaps only the ego is liable to damage. But if the trial is concrete, the learner could lose a year, a finger or a friend—and the administrator might lose a school, several hundred trusting people and a few million dollars. This is where computer simulation comes into play.

If the computer is programmed with the right data, both learner and administrator may test the consequences of their decisions without the loss of anything more than a bit of time. Computer graphics are of great assistance here, since data can be plotted visually and in several dimensions. If the learner wishes to test the consequences of operating a simulated business with limited working capital, he may obtain a simulated bankruptcy. If the administrator wishes to test the consequences of 12 month school operation, 12 hours a day, with swing-shift teaching and accelerated promotion, he may obtain a simulated glut of 16-year-olds on the labor market or a simulated teaching strike. The preparation of this report would have been a much simpler task, and perhaps a less dangerous one, had more sophisticated methods of simulation been available.

learning resource units

While some institutions for schooling have already expanded their library services to include a profusion of learning resources, many still have not. What used to be called a library must now become a learning resource unit (LRU). This means more than a mere name change. It means a radical change in function and a marked escalation in the range of services offered. It means more space, more people of differing skills, more hardware and more software.

Learning resource units are not places in which things are kept. They are places from which things are taken–both intellectually and physically. They are active learning centres, not passive storage centres.

Presently, a modern learning resource unit should include: books, periodicals, pictures, photographs, phonograph records, audio tapes, video tapes, models, microfilm and / or microfiche, artifacts, exhibits, special multicultural and multilingual materials, special materials for the handicapped, educational games, programmed instruction, film strips, film loops, film features, slides, charts, realia, art of all description –and all the necessary machines, spaces and facilities in which to use these resources.

The learning resource unit of the '80's is expected to offer: computer terminals, video printers, facsimile receivers, newly-developed micro-media, a variety of audio and video retrieval devices served by coaxial cable, receivers for the direct transmission of communications satellites, a variety of copying devices, several different cartridge and computer display systems, perhaps a chemical learning centre–and all the necessary software, or access to it, required to make the machines work.

A forerunner of tomorrow's LRU is the Cross-Cultural Learner Centre developed by Canadian University Service Overseas and the University of Western Ontario. A mobile version of the centre has just completed a tour of major Canadian cities. All information is stored on a time-sharing computer. The computer is linked by telephone to a simple keyboard terminal that works just like a typewriter. An individual learner may consult the computer memory by typing-in questions in the form of a few keywords. A printout is quickly provided listing all the various forms of data that can be used to answer the questions. In operation the centre functions as a learning cafeteria enabling individuals to choose what they want to learn, the way or medium in which they prefer to learn, and the rate at which they progress toward the learning objectives they set themselves.

Naturally learning resource units should come in different sizes and be specialized to different purposes. But there are compelling arguments for the joint use of these units by both the institution for schooling and the community at large–just as there are convincing arguments for regional centres intended to serve a cluster of communities. Joint community use of learning resources is an economical approach because it minimizes duplication of facilities and materials. It also provides a facility for community interaction. Regional centres allow access to many diverse resources too costly for local inventories. They can also act as central supply houses for local resource units. The Parkland Regional Library in central Alberta is illustrative of this approach. While Parkland's plans are not as future-oriented as those outlined here, they represent a solid embarkation point.

College and university libraries and learning resource units must not be excluded from integration into these regional patterns. At the same time, these institutions should begin their own interconnection on a province-wide basis, beginning with back-up reference and information services. At least one of the colleges has already initiated a telex link for this purpose; the others should be encouraged to follow suit, using the universities as interface points to create a provincial network.

Many people find the two notions of sharing and regional centralization distasteful because both imply greater service difficulty and interference with local autonomy. However, the technology now being introduced has the potential to create a new type of centralization and a new type of autonomy–a two-edged capability for closer services and greater individual choice. The promise lies in a strand of wire called coaxial cable.

The wired learning resource unit is merely an extension of the concept of taking from rather than keeping in. This expanded concept allows us to take things electronically without taking them physically–that is, to take without diminishing the supply. People will still need to visit the learning resource centre physically, but they may encounter this need less often and be willing to travel further. As noted earlier, transportation is being replaced by communication.

In more specific terms then, a possible course for the development of a provincial system of learning resource units, and regional learning centres is charted in the following two paragraphs.

During the '70's we should establish the philosophy of the learning resource unit (LRU); allocate greater sums of money towards the strategies of systematized learning and self-directed learning, another way of describing an LRU; devote more space to LRU development, remembering that live storage takes up more room than dead storage; alter the content emphasis in basic education courses and teach students the skills involved in using an LRU; develop differentiated programs for the training of LRU workers, including clerical, technical, paraprofessional and professional personnel; cluster existing materials and machines; establish special LRUs for Indians and Metis, the inner-city and other disadvantaged publics; experiment with some LRU's as the focal point of community-schools, which would have no buildings or classrooms other than the LRU and whatever learning settings are offered by the community; begin pilot programs involving the integration of LRU's in educational institutions with public libraries; begin the interconnection, by cable, of LRU clusters, both horizontally, within an existing level, and vertically, between school, community, college and university–by region; begin the interchange of resources.

For advancement in the '80's we ought to superimpose new and larger regional learning centres, which will be multipurpose centres as described in Section III, on both a geographic and demographic basis; interconnect the larger regional centres with their smaller LRU affiliates; begin the interconnection of individual clients with the regional learning centres using touch-tone telephones interfaces–by this time the necessary coaxial cable telephone lines will have been installed; superimpose a single, electronic, provincial **Learning Resource Central** over the regional framework–see ACCESS, page 266; accelerate the exchange and employment of resources through the integrated circuit.

Obviously all four levels of this learning circuit–Learning Resource Central, regional learning centres, learning resource units and home terminals–will have the capacity and the potential to serve many more purposes than those just described. The Correspondence School Branch could expand into new fields; so could the Early Ed and Alberta Academy projects; the Alberta Teachers' Association could establish its long awaited Educators' Reference Service; further and continuing education projects would have the means of beginning comprehensive, province-wide programs; planning information systems could be piggy-backed on the circuit–these are just a few of the educational purposes to be served. The host of other non-educational variations on this theme is left to the imagination of government agencies and private service industries.

textbooks and projected materials

Textbooks will continue to serve as convenient starting points for the teaching-learning process. Schooling develops its teaching strategies in words; words are then stopped on paper to make them less transient; the stopped words become textbooks. Learners are launched from these textbooks towards other learning resources, but frequently return to the text as a home base. Learners need home bases. The textbook is, therefore, a basic tool.

At the present time the Department of Education handles textbooks in two ways: there are authorized texts and there are recommended texts. Both are available for sale at lowered prices from the School Book Branch, but only the authorized texts are eligible for the sizable 40 percent discount under the rental plan. No school board is required to use either the authorized or the recommended texts; the only requirement is that the department's course of studies be followed. Upon its own motion, a school board may choose to use none of the listed texts and may introduce whatever textual material it

wishes, or none at all if it feels so inclined.

So far, very few school boards have exercised much freedom of choice in textual materials. Experience has shown that good teachers enjoy the dynamic possiblities of introducing varied and more current texts into their classes. One reason boards have not responded to the flexibility allowed under the new School Act may be the attractive discounts allowed only on authorized texts. Consequently, it seems desirable that the department investigate ways of extending the rental option to both its authorized and recommended lists. In this way, the locally-oriented programming envisioned in Section IV can be hastened to reality.

At the same time, it is recognized that the development, publication and marketing of textbooks is a very complicated and costly business. When teachers are given a greater choice of texts, the market for any single one is diminished, sometimes to the point of economic folly. And as the economics of textbook publishing are impaired, the amount of money available for textbook development and testing is seriously curtailed. Such is the Canadian situation right now and all too often textbooks come to market that are improperly developed and inadequately tested.

Our students should have more and better textbooks at their disposal, most of which are uniquely Canadian and some of which are uniquely Albertan. If this is to happen, then the province must consider the possibility of either entering the publishing business itself, or subsidizing those who are already in it. Since national unity and the Canadian identity are at stake, there is a solid case for federal subsidization, on behalf of the provinces, through the Canadian Council of Ministers of Education. Alternately, the provinces could band together and contribute a per capita sum for Canadian subsidization of the industry. For texts of unique provincial application, however, local subsidy may be necessary.

First, it is urged that any subsidization of textbook publishing be aimed specifically at the development and testing stage, with funds earmarked for that purpose alone, not for the industry in general. Our proprietary interest must be towards the methods and value structures inherent in textbook development, and in effective testing procedures which will assure that each book can achieve its learning objectives.

Second, it is suggested that local subsidies be employed, when suitable material does not exist elsewhere, for the development of those Alberta texts that would have, at best, a very limited market. For instance, some of our schools need Cree language materials, but no publisher can afford to produce them without subsidization. While the Canadianization of existing American materials rates a high priority, this is a subsidization that should be applied at a national rather than a provincial level.

Nearly all of the problems associated with Canadian textbook publishing also apply to the production and marketing of Canadian films and other projected materials. A recent survey of metropolitan Toronto school boards revealed that 79 percent of the educational films purchased in that city during 1970 were of foreign production. Only eight percent of films purchased came from sources other than the National Film Board. Further, this same purchasing pattern extended to other materials such as film strips, film loops, overhead transparency masters and media kits. All indications are that an Alberta survey would yield similar data. There are few sources of Canadian-produced materials. Consequently, there is a prevalence of foreign projected materials in our institutions for schooling and an almost total lack of truly relevant Alberta-produced materials. It is, therefore, proposed that the same subsidization principles recommended for textbook materials should also apply to projected materials. Fortunately, the situation is not so dismal in television production, but assistance is needed here as well.

To meet the needs of the future, it is also desirable that the Provincial School Book Branch be expanded into an **Alberta Learners' Mart.** In its present form the branch has gained a reputation for efficient operation. It is felt that the same efficiency can be carried over to the challenging new role suggested by the name change.

The Alberta Learners' Mart would be at the service of both educational institutions and individual learners. It would give special attention to the sporadic learning resource demands of further education. The mart would stock a wide range of resources including texts, special learning kits, slide and picture sets, film materials, educational games, programmed learning materials and pre-recorded audio and video tapes, as well as the video cartridges and discs mentioned later.

Many of the resources suggested would be materials produced by the Department of Education and Department of Advanced Education, or by various educational institutions across the province. In this way, meaningful provincial exchange of locally produced learning resources could take place on a cost-recovery basis. The learners' mart would also specialize in those materials that private business has shown itself unwilling, or unable to supply. The mart would represent an assured source of supply, and give the benefits of volume buying to its individual and institutional clients, who are badly in need of such a service.

television cartridge, tape and disc systems

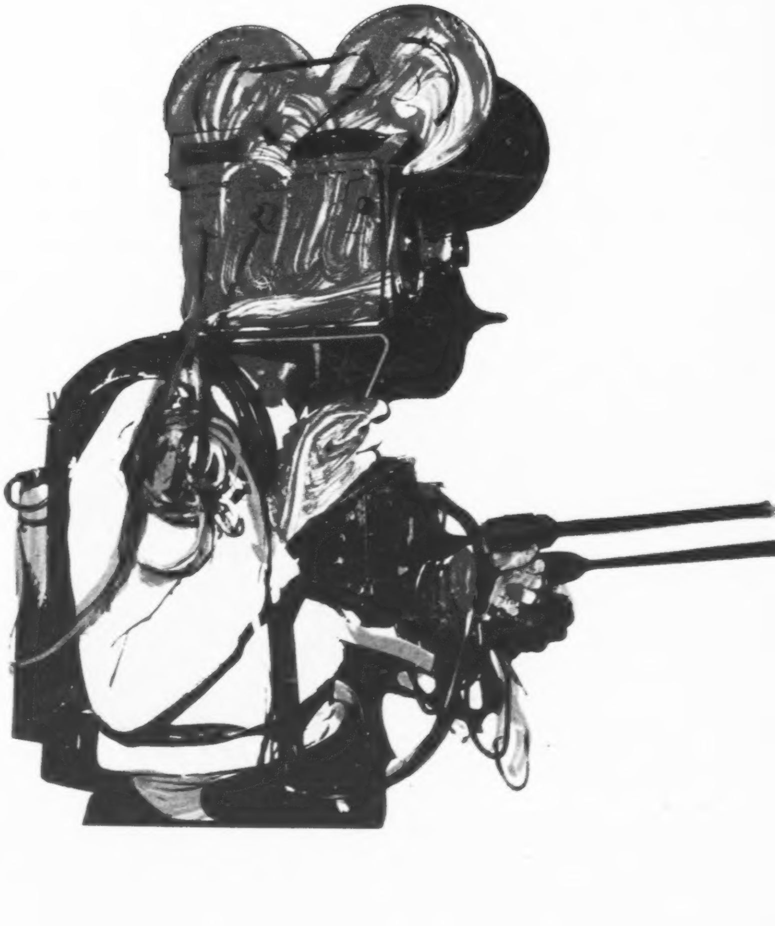
A new generation of inexpensive television display and retrieval systems is now making its appearance on the educational market. Some of these systems are playback-only; that is, the user is tied to a supply of pre-recorded materials available only through commercial distributors or processors. Others are playback / record systems, in which case the user may either purchase pre-recorded materials, produce his own, or duplicate the materials of others willing to share their copyright.

The playback-only systems include EVR (Electronic Video Recording, from CBS) which employs a special miniaturized film; Selectavision (from RCA) using a plastic tape imprinted with laser beams; and Video Disc (from Teldec, a European consortium) which employs foil discs. The playback / record systems include: Instavision (from Ampex) using ½ inch magnetic tape; Videocassette (from Sony) with ¾ inch magnetic tape; and Cartrivision (AVCO) which has its own unique display system. None of the playback-only or playback / record system is compatible, one with the other. Each requires its own special format, just as an 8mm film cannot be shown on a 16mm projector.

Since some of these machines have special capabilities to display single frames, they can store enormous amounts of material. Many feature slow motion, quick retrieval of any frame or sequence, childproof operation, and the capacity to feed many television sets. All of these systems are expected to hit the Canadian market by 1973. Their advantages to schooling are obvious, but some of their disadvantages are not.

Alberta's departments in education have established Canada's first videotape dubbing centre. It is a free service, up to a certain quota, that allows institutions at all levels of schooling access to a large library of specially-cleared programs, which can be copied on to their own tape. Total reliance upon any of the pre-recorded formats mentioned above would rule out the use of this valuable service. An inventory of programs on celluloid, disc or foil is permanent and unalterable. Programs on magnetic tape can be updated, multiplied or erased. Magnetic tape is like a re-usable container; the other formats come in containers that are not re-usable, only disposable.

While magnetic tape is seen as the main format for institutional production, duplication and exchange, the pre-



recorded formats also have many valuable applications, especially in further education. International producers are already rushing to fill home entertainment cartridges with movies, sports, cultural programs and popular drama. Just as there are many more record players in our homes than in our schools, so the EVR, Selectavision and Video Disc players will proliferate in our living rooms. This will mean that further education can reach those living rooms if it has learning materials available in the new formats.

Similarly, the learning resource units and regional learning centres will find these formats convenient, efficient ways of storing materials, both for electronic delivery and home loan. Since it is possible to put self-produced materials on these formats in minimum quantities of from 50 to 100, the Alberta Learners' Mart would be the logical agency to arrange for the bulk purchase of both self-produced and pre-packaged programs.

The argument concerning the comparable merits of locked-in, pre-recorded formats versus the more flexible magnetic format finally comes down to this: where many copies of a single program are required–often to be viewed on a one-to-one basis–and the material has lasting value, the locked-in format is preferable; where few copies are needed, often because one copy can be made to reach many people, or where the material has a limited life, the flexible format is more sensible. Obviously schooling needs both–but certain learning transactions will only require one.

learning systems

If teachers can organize the raw materials of learning into systematic packages, and give these packages to the learner along with some clear-cut behavioral objectives, the teacher may not have very much left to do. This is the view of a growing number of educators and behavioral scientists who advocate instructional technology or the learning systems approach. While this approach does not demand the employment of multi-media materials, most learning systems do in fact contain both print and non-print materials, often including films, tapes, programmed instruction, televised materials or computer-assisted instruction.

Learning systems, while also useful in the institutional mode of program operation, are most valuable in individualized learning climates as found in Mode III. Those systems that perform best are not lock-step, repetitive, one-way learning routes but rather are branching systems that allow responsive exploration, intuitive discovery and immediate reinforcement. Their employment allows the teacher to assume a learning guidance role providing the uniquely human ingredients so vital to learning. The teacher also monitors the systems, evaluating the instructional design and making corrective adjustments.

The initial stages of instructional design are often very difficult and frequently a team approach is required. But the results can be extremely rewarding. Properly designed, learning systems offer the promise of mastery for nearly all and failure for very few. Often the pieces that make up a learning system package are interchangeable with others for recombining into new systems. This fact suggests the need for coordination and joint or complementary production so that learning systems banks may be established that permit both deposits and withdrawals on a province-wide basis.

Some exciting work in learning systems design is being done at the University of Calgary, the University of Alberta, Athabasca University, Mount Royal College and the Southern Alberta Institute of Technology. It is suggested that more government encouragement be given these endeavors, and that the Department of Education initiate consultancy services and pilot programs in the design of learning systems for use in basic education.

access (alberta communications centre for educational systems and services)

It has become patently obvious that the future development of education in Alberta will demand a highly sophisticated communications system. The very diversity of the educational enterprise will pose an immense challenge in communications logistics; this challenge will not be met with a few mail boxes and telephone lines. Education will require a completely new system–one that permits and prompts electronic dialogue between individual learners, their teachers and tutors, and institutions for schooling.

This new system must also plug Alberta into the educational communications grid now developing nationally and internationally. From a communications standpoint, schooling has long been at least a generation behind contemporary business practice. This gap must be bridged.

Certain phases of the communications system that schooling will need can be plotted now; others will depend upon technological development and the preferences shown by the rest of Canada and the world. Whatever is plotted now must fit into that future configuration. This is not as difficult as it sounds.

Three patterns of educational communications have emerged during the last five years; two of these are predictable and the third is still very pliable. First is the essentially one-way delivery pattern of radio-television, which can be dispersed by broadcast, cable, microwave, laser beams and satellite. Next, occupying the middle ground, are the pliable hybrid systems, which can piggyback on radio-television delivery systems: facsimile, video printing, videophones, data transmission, microforms, television cartridge and tape systems, projected materials, audio and video retrieval systems. These systems are in a constant state of developmental flux; some allow limited two-way communications; all can travel on cable and some can travel on narrow sub-channels of wider broadcast and satellite channels.

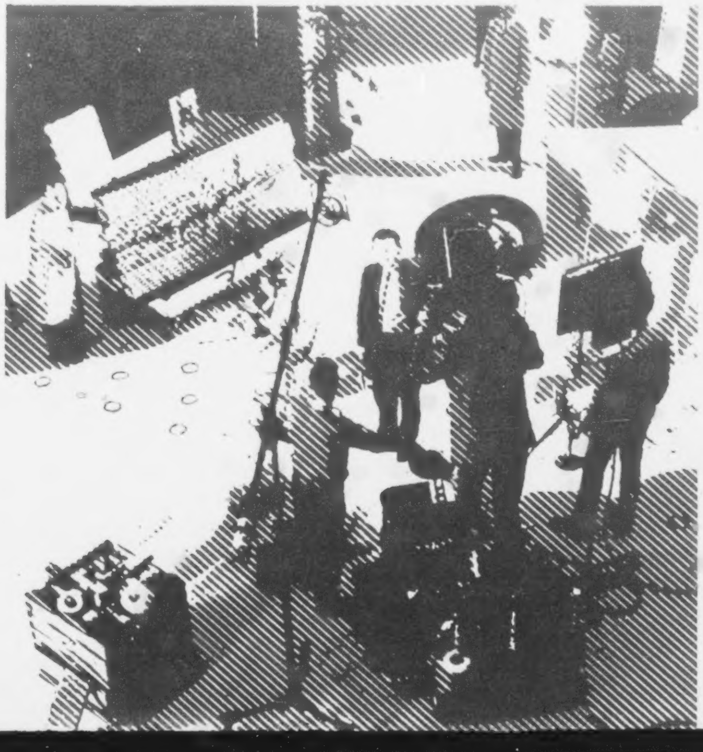
Third is the time-sharing computer, with its ability to store, manipulate and transmit enormous amounts of information in hundreds of program configurations, and allow near-simultaneous access by many subscribers at the same time. Computers travel best on wire, at the present time, and are two-way communications devices, with emphasis on receiver-control rather than sender-control.

While it would be difficult at this time to plot the pliable middle ground, it is safe to commence construction of a communications system resting on the twin foundations of radio-television and computer time-sharing. By doing this, a sender-oriented system is paired with a receiver-oriented system. New hybrid systems will undoubtedly be invented. The most successful will probably be a cross between television, telephone and a computer terminal, Hopefully, these new hybrids will reduce the high cost of experimentation in the middle ground, but all are likely to require radio-television and / or computer software. They will also likely require what the time-sharing computer alone can guarantee – access.

This report calls for a delivery system that can meet the demands of the Alberta Academy and Early Ed programs while still providing for the considerable expansion of radio-television services to basic education. It also calls for the employment of computer management systems and the development of computer assisted instruction and time-sharing information systems. To achieve these aims, and to provide foundations for the sophisticated needs of the future, the Commission urges the Alberta government to establish immediately the agency this report refers to as ACCESS (Alberta Communications Centre for Educational Systems and Services). Preliminary cost estimates for the first phase of its development and operation are given in Table 6.

ACCESS would require certain groupings of resources and personnel within the two departments of education, certain new structures, certain new priorities and certain enabling legislation, both provincial and federal. ACCESS would plan, build, operate and regulate a provincial educational communications system. This would be a centralized system because the technology involved requires centralization to achieve efficiency, cost-effectiveness and to prevent mismatched, haphazard growth. Fully developed, however, this system would provide sufficient flexibility to satisfy local, regional and central needs.

ACCESS should be established as a Crown corporation and designated as the authority to develop the province's educational communications services and regulate federal government communications policies. In effect, ACCESS would be an expanded and incorporated version of the present Alberta Educational Communications Authority and would bear much the same relationship to the provincial government as the CBC bears to the federal government. Such an arrangement is consistent with the present mood in



Ottawa and is the developing pattern in other Canadian provinces.

ACCESS would be responsible to a broadly representative board of directors and would employ a relatively small but highly qualified group of communications specialists. Wide use of expertise from the private sector would be necessary. In fact, certain of the elements that would comprise the provincial development plan might well be given over to private enterprise.

This report has already suggested the type of organization required to prepare Alberta Academy programs for delivery by the ACCESS network. It has also suggested that the Department of Education mount the Early Ed programming. To achieve this aim, and to expand greatly its own radio-television and media services to basic education, it seems likely that the department will wish to consider the regrouping of certain of its resources and personnel beyond that suggested in Section III. Presently there are four branches that are active in media services: the Audio Visual Services Branch, which includes the School Broadcasts unit; the Correspondence School Branch; the School Book Branch, which the Commission suggests should extend its media services to become an Alberta Learners' Mart; and the Communications Branch. At present, these branches employ about 220 people and each reports to a different part of the department.

If these branches were grouped and made to serve the Department of Advanced Education as well, they would create a pool containing many of the people, resources and facilities required to accomplish the Early Ed series, expand basic education media services, and launch the Alberta Academy. If the facilities and personnel of MEETA and CARET were added to this grouping, as previously proposed, the pool of capability would be considerably enlarged and deepened. If radio station CKUA were then added to this team under the operation of ACCESS, quite a formidable organization would result. These agencies would constitute the foundation of a radio-television-multimedia resource system suitable to the demands of the coming decade. For purposes of internal clarity, the grouping will hereafter be referred to simply as **Media Central.**

Concurrent with the Media Central grouping, or shortly thereafter, a **Computer Central** grouping should take place within the two departments in education. This grouping could include the present Operational Research Branch, personnel involved in PPBES (Programming, Planning, Budgeting and Evaluations Systems), and other staff who become available for retraining and reassignment as the role of government alters. Their task would be to prepare computer management programs for input into the first phase of the time-sharing computer network to be assembled by ACCESS. For the second phase of ACCESS–that of developing computer assisted instruction programs–Computer Central could combine with Media Central, which includes many program developers, to build CAI and information retrieval services.

Eventually Media Central and Computer Central might merge to provide comprehensive support services in six categories: research systems; development systems; production systems; learning systems; management systems; and information systems.

The establishment of a comprehensive provincial delivery system for educational television and radio would require funding of approximately $31 million. Annual operating costs for the first operational year, determined as of 1975 for purposes of calculation, would be about $1 million. These estimates are based primarily on a recent study completed by Alberta Government Telephones for the Department of Education. This study did not encompass radio transmission, however, and other industry sources were used for these calculations. Certain capital cost options are available to the province and should they be utilized the results would be reduced costs and / or greater efficiency. A breakdown of the basic factors contributing to cost can be found in Table 6.

While the principal programming of the ACCESS radio-television network would be provided by the Alberta Academy and by Media Central, ACCESS would also be available to carry programs and courses produced by Alberta's colleges, universities and technical institutes, plus those local systems whose programs deserved a wider audience. In addition, of course, provision would be made for the importation of outstanding programs from all over the world, with special reference to those from other parts of Canada.

The development of a time-sharing computer network whose first priority would be towards management systems, followed by computer-assisted instruction and information systems, would constitute the second phase of ACCESS.

The development of cost estimates for this second generation development would be a major undertaking in itself and well beyond the scope of this report. While preliminary work had already been done on the first phase of ACCESS by the

Table 6
Preliminary Cost Estimates and Options for ACCESS, Phase One, Assuming 1975 Operation

ANNUAL OPERATING COSTS	
Television studio and transmitter complex (Includes technical and administrative staffs, plus materials only; all direct production costs would be borne by the programming agencies)	$ 565,000
Radio studio and transmitter complex (Includes technical, administrative and production costs presently associated with radio station CKUA–whose current yearly budget is in the order of $300,000 and is met by Alberta Government Telephones)	520,000
TOTAL OPERATIONAL COSTS	$ 1,085,000
CAPITAL COSTS	
Studios and office building	$ 600,000
Studio production and master control equipment (TV)	1,250,000
Construction of two additional transmitters for Radio Station CKUA and their interconnection, plus low power radio transmitters for remote regions, to achieve province-wide coverage	850,000
Engineering, site development and construction of a province-wide network of 29 UHF television transmitters, varying powers of 30 KW to 1000 KW, 500 foot towers for all, including spare parts and test and monitor equipment	20,000,000
Microwave interconnection of television transmitters including towers, antennas, waveguides, buildings and approximately 85-90 microwave hops	8,400,000
TOTAL CAPITAL COSTS	$31,100,000

CAPITAL COST OPTIONS

1. The federal government has already demonstrated a willingness to finance the construction of educational broadcasting transmitters–and has done so on very attractive terms for Ontario. Similar arrangements might be available to Alberta.
2. Alberta Government Telephones seems willing to build the necessary microwave interconnections from its capital sources and lease them back to ACCESS. Approximate yearly lease: $2 million.
3. The Federal Department of Communications plans a "heavy" communications satellite launch in mid-1974 for possible experimental educational use. A distribution channel might be leased on this satellite, thus making microwave interconnection of the TV transmitters unnecessary. Lease cost incalculable, but commercial rates on the 1972 satellite are reputed to be $3 million per channel, per year. Lease costs of a satellite channel might be shared with other Canadian provinces, especially Ontario. The two hour time differential would permit some local programming for both, but joint programming would prevail.
4. Under present federal legislation, only UHF channels are available for educational use. If the federal government were to change this policy, then the inclusion of some VHF transmitters, which cost less, carry further, use less power and provide a better signal, would lower the cost estimates for the television transmitter network considerably.
5. Cost estimates associated with CKUA might continue to be borne by AGT in the event this station's operation by ACCESS is deemed inadvisable. CKUA, however, could still make its services available to ACCESS, just as it now does to the Department of Education and MEETA.
6. The estimates for transmitter construction and interconnection are based on traditional engineering procedures. A new technique pioneered in Europe, and considered dependable by the Ontario Educational Communications Authority, could substantially reduce these estimates. The technique involves the installation of a multiplicity of relatively low powered UHF receiving stations requiring no other interconnections. Use of this technique could eliminate all microwave interconnection costs (8.4 million) and also reduce transmitter costs from 20 million to 16 million. Overall savings could reach 13 million, thus lowering total capital costs of ACCESS to about 18 million.

Note: While construction of the television network would bring reception to virtually all Albertans, it would be impossible to reach several extremely remote Indian and Metis communities by this means. To reach these communities, educational versions of the CBC's frontier packages would be necessary. These low-power packages would use video programming as their foundation but would also be capable of some locally originated programming. This strategy would be a valuable adjunct to the ACCESS network and would be in keeping with the views of the native peoples themselves, who feel much in need of a window on the world, a view of hundreds of life options, as a means of grasping the essentials of adjustments they are being asked to make. Engineering data is not complete enough to allow these cost estimates to be included here. However, provision of radio services to these isolated settlements has been included.

Alberta Educational Communications Authority (who turned their studies over to the Commission for further development) no comparable investigation has been carried out with respect to the establishment of a time-sharing computer network. In practical terms, this probably means that the radio-television network would precede the computer network. However, the Commission sees these projects as sharing equal priority.

The Province of Quebec has now completed a time-sharing computer network serving all of its colleges and is expanding this service to its regional school commissions. However, Quebec's cost basis is quite dissimilar to that which would apply in Alberta. The principal reason for this dissimilarity is that ACCESS would not likely start its network from scratch; rather it would consider redeployment of the province's existing computer services towards this new objective.

The Department of Advanced Education recently has begun an inventory of the present computer services in higher education as a preliminary step to a possible feasibility study for a time-sharing Alberta network. The province's leading supplier of computer equipment has suggested that two parallel time-sharing networks might be best suited to the ACCESS objectives–one for management systems and one for CAI and information systems. The latter might best be built around the expertise and equipment already assembled by the Faculty of Education at the University of Alberta.

Before the full concept of ACCESS can be realized, certain communications policies must be negotiated between Alberta, the federal government and the Canadian Radio-Television Commission (CRTC). Certain other federal policies also pose the threat of heavy financial burdens. If these policies could be favorably renegotiated, ACCESS would be more economically viable. Without presuming to speak to the overall communications policies of either the provincial or the federal government, this report draws attention to those policy areas relevant to the ACCESS proposal.

To begin with it must be recognized that existing federal policy prohibits the licensing of broadcasting undertakings to provincial governments or their agencies. The federal government has recently invited renegotiation of this policy.

Federal policy, which presently allows the CBC to construct educational transmission facilities for use by the provinces, also prohibits the use by education of the less expensive and more serviceable VHF channels. Alberta has a number of these channels which are unassigned. Also, most engineers agree that a considerable number of additional low power VHF channels could be dropped-in to Alberta without seriously interfering with those channels currently under protection.

Furthermore, the present definition of educational broadcasting, by which educational radio and television must abide, is thought by some to be an unnecessary and debilitating imposition. Certainly its enforcement would prohibit CKUA from carrying on its present, highly desirable program format. Some educational broadcasters advocate a new definition that would operate by exclusion rather than inclusion. These broadcasters suggest that it would be easier and more sensible for the federal government to identify what educational broadcasting should not be, rather than what it should be.

Present regulations place CATV cable systems under the jurisdiction of the CRTC. If these systems were to carry all the services of which they are technically capable, including many of those customarily assigned to common carriers, the provincial government and the Public Utilities Board would be unable to regulate certain services of a purely local and provincial nature. For instance, CATV systems can handle computer traffic, surveillance, shopping services, credit checks and personal records. Without regulatory authority, the provincial government could not enforce the privacy of such transactions, or control the rates for such services.

Many of the services foreseen for ACCESS would be under a combination of both federal and provincial regulation. It would, of course, simplify the ACCESS operation if most of its services fell under provincial legislation–this observation is meant to apply more to cable and other closed circuit transmission than it is to public broadcasting. At the present time, American educational broadcasters whose transmission is carried by cable into Alberta are subject to no Canadian regulations, while Alberta educational broadcasters are subject to quite stringent controls. It would, in fact, be much simpler, less expensive, and allow greater program freedom if

ACCESS were to feed Alberta's CATV systems by purchasing time on Spokane's ETV station, instead of going directly to the cable operators. Spokane has already expressed its willingness to cooperate. That such a circumstance should exist seems both ironic and foolish.

finance

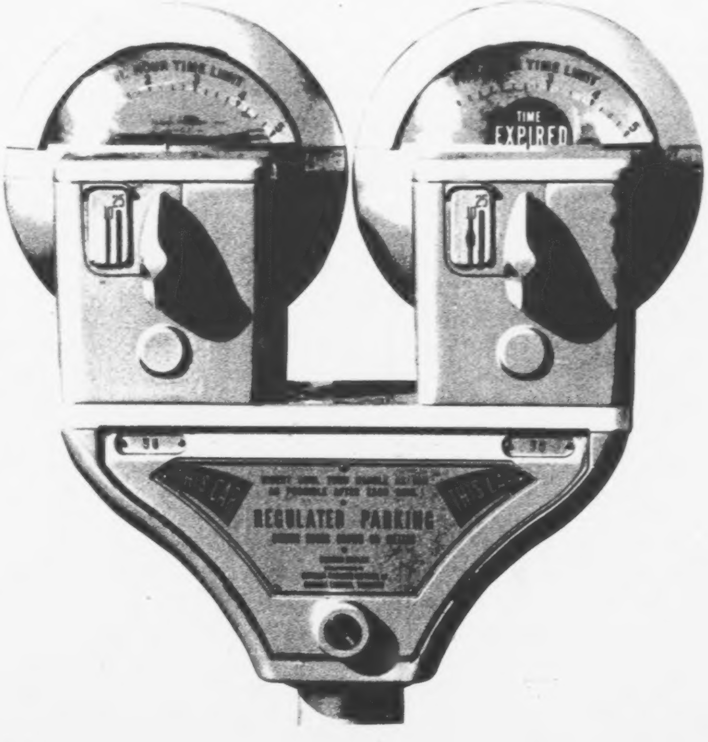
In the allocation of resources for schooling we should strive to be impartial yet sensitive to special needs; to promote equity without downgrading quality; and to ensure efficient use of resources while fostering innovation. These expectations will not be easily met. Indeed, at times they may even act at cross-purposes. Moreover, values underlying these expectations are not, as yet, shared equally by all Albertans. Consequently, the subsequent proposals about finance are likely to generate considerable controversy, particularly at the level of application.

But on at least two operational guidelines there appears to be widespread agreement. First, some changes are necessary in the budget time-frame presently used, if educational planning is to be more effective. In particular, the budget time-frame should not be restricted to one year but should be lengthened for all levels of schooling. To facilitate this move, the government should, after assessing needs, provide information about the operating revenues that might be expected for all levels of recurrent education over at least a three year period on a rolling basis. Similar forecasts of capital requirements over a five year rolling period should be maintained. Three year operating and five year capital budgets, subject to annual review, should, therefore, be adopted by all levels of schooling. Second, all levels of government and recurrent education should have a common fiscal year. Planning and budgeting would be facilitated, and the payment of interest on short-term borrowings would be avoided.

Despite forecasts of increased expenditures for schooling, it is not economics *per se* that will limit the provision for education, but the value we place on the quality of life. The need to develop public awareness of the social cost of pollution, mental illness, crime, drug abuse of all kinds, and many other problems requires the help of recurrent education. But even the quality of life has a price. Are we willing to pay the price, however high?

alberta setting

A region's economic growth is largely dependent on its ability to develop a set of basic export industries capable of utilizing the unique characteristics of both its human and material resource base. Since 1947, the economic growth of Alberta has centred around the growing and harvesting of agricultural products as well as the extraction and processing of mineral resources, particularly fossil fuels. Continued economic development of the province will be primarily dependent on these same industries, plus our ability to develop the manufacturing sector generally. As previously indicated on page 8, the Gross Provincial Product (GPP) is expected to rise from $6.2 billion to $24.7 billion within the next 20 years.



The implications of such economic growth for the average Albertan depends on the corresponding growth in the province's population. Although the population is projected to increase by about 50 percent in the next two decades it will not grow as much as the GPP. Hence, personal income per capita will increase in current dollars from $2,927 to $7,764 between 1970 and 1990. This increase in personal income could make available more money for schooling.

Other forecasts given in Section II suggest that the future economic system of Alberta is likely to differ only in degree from the present one. It will continue to consist of both a public and a private sector, but with the public sector expanding at a more rapid rate. Both sectors will strive to employ the available economic resources as efficiently as possible to provide a wide range of services and goods. The basic difference in the two sectors will lie in the nature of the goods and services each will provide.

Essentially, the private sector will be limited to those products and services that provide benefits on the exclusion principle; that is, the purchase of a product by one consumer excludes another from the use of that particular product. Not all consumer demands can be readily satisfied in this manner. The benefits derived from certain goods cannot be limited solely to the purchaser. These collective goods have two important characteristics: they must be supplied to a group of people, and they cannot be withheld from anyone who chooses not to meet his share of their costs. Such a commodity is police protection. All citizens receive its benefits even if some individuals do not pay taxes.

If these collective services or goods are to be provided, then one must look to some system other than the open market to provide them. The usual approach is to supply such commodities through government. By this method, goods and services are provided free of a direct charge since payment is made by means of a compulsory tax levy on both recipients and non-recipients of the commodity. As a result, all members of the public may have equal access to such goods and services, but the tax levied upon each individual may vary according to his ability to pay.

This deceptively simple division of responsibility for the provision of goods and services is likely to be less clear-cut in the future. Some overlap, particularly on the part of the public sector, is bound to occur. With growing government involvement in both sectors, more effort will have to be devoted to developing an economic model that will guide the allocation of resources to public services like schooling. Such a model, together with the political processes devised for its application, could yield helpful responses to certain value questions concerning educational finance that so far have been very difficult to answer. However, with or without a well-developed economic theory, it is necessary to consider four basic questions about finance often posed to the Commission:

What proportion of personal income shall be allocated for schooling?

How shall the cost of schooling be shared among the individual and the several units of government?

What shall be the best allocation of available revenues among the various levels of recurrent education?

What controls and incentives shall be provided to ensure prudent use of funds and a generally high level of efficiency and quality?

past performance

The way in which Albertans have chosen to answer these questions in the past may be partially inferred from an analysis of previous educational expenditures. To review such past lines of action is useful since proposals for the future are often constrained by previous practices.

In the two previous decades, Albertans attached great importance to schooling. This is reflected in Table 7 which

shows that the portion of personal income used for educational operating expenditures rose from 3.8 percent in 1950-51 to 9.6 percent in 1969-70. Sparking this rising financial commitment was the interaction of at least three factors: the larger proportion of young people attending schools and institutions for higher education, a relative shift of enrollment to higher levels of schooling, and general price increases.

Underlying these factors or indicators was the growth in population arising from the high birth rates of the post-war period. Between 1951 and 1970 the population of the province increased by 69 percent. Much of this growth occurred within the Calgary and Edmonton census divisions where the population increased by more than 128 percent in the same time period. In addition to the overall population growth, changes have occurred in the proportions of the various age groups that make up the population. Between 1956 and 1970 the 24-and-under age group increased from 47.6 percent of the provincial population to 50.6 percent.

Either of these population changes alone would have had significant implications for enrollment in educational institutions. However, the simultaneous occurrence of both conditions coincided with the development of much higher expectations of education by students and parents. As a consequence, a rapid increase in participation rates and corresponding expenditures occurred.

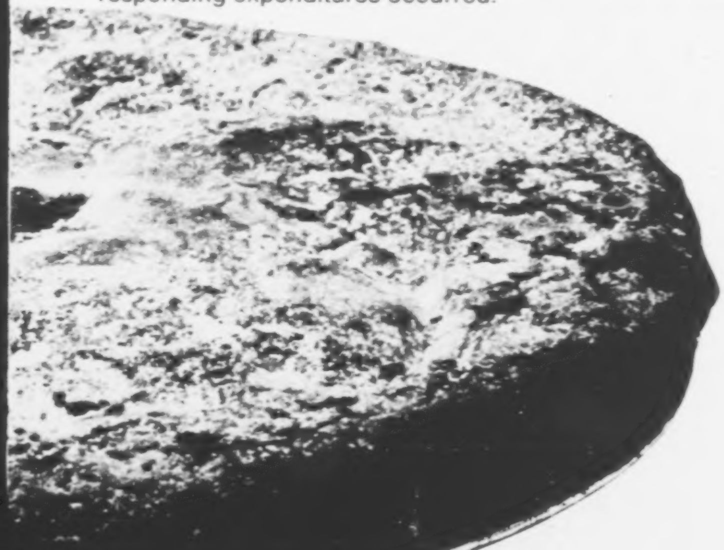


Table 7
Total Operating Expenditures for Formal Schooling by Institutions for Selected Past Years

Institution	1950-51	1955-56	1960-61	1965-66	1969-70
	in thousands of dollars				
Schools	31,458	57,768	122,910	164,897	304,523
Colleges and Institutes	1,101	1,835	3,387	10,122	26,929
Universities[1]	2,525	3,400	10,990	31,200	90,348
Total	35,084	63,003	137,287	206,219	421,800
	expressed as a percent of total operating expenditures				
Schools	89.7	91.7	89.5	80.0	72.2
Colleges and Institutes	3.1	2.9	2.5	4.9	6.4
Universities	7.2	5.4	8.0	15.1	21.4
Total	100.0	100.0	100.0	100.0	100.0
	expressed as a percent of total personal income				
Schools	3.4	4.0	5.9	5.7	6.9
Colleges and Institutes	0.1	0.1	0.2	0.4	0.6
Universities	0.3	0.2	0.6	1.1	2.1
Total	3.8	4.3	6.7	7.2	9.6

Sources: D.B.S., *Survey of Educational Finance*, 1954-1965.
Canadian Universities, Income and Expenditures, 1967.
Hanson, E. J., *Financing Education in Alberta*, 1964.
Province of Alberta, *Public Accounts*, 1951-1961.
Annual Reports, Department of Education, 1965-1970.
Statistics Canada, Finance Section, Education Branch.

[1] Expenditures exclude research awards.

The manner in which these expenditures have been shared between the individual and various units of government varies according to the level of schooling. Early education has been given virtually no public support and is financed primarily from student fees. Funds for basic education have been provided by a levy imposed on the real property tax base and grants received from the provincial government. This latter source now accounts for approximately 40 percent of these expenditures. In higher education, federal and provincial grants have been the major sources of funds, with student fees providing about 14 percent of revenues. The individual's contribution has been greatest in further education where many programs have had to be self-supporting.

Although education is a provincial responsibility, the federal government's financial contributions have steadily mounted. For example, by means of various conditional grants and cost sharing schemes, the federal government has consistently increased its assistance to provinces in meeting their financial obligations for higher education, including Grade XII. Thus, between the periods 1967-68 to 1970-71, federal assistance to higher education in Alberta under the Fiscal Arrangements Act increased by approximately 100 percent. In fact, since 1967-68 Alberta has received the highest per capita grant of any province under this arrangement. The payments made to Alberta in 1971-72 on the basis of provincial population were $54.30 per capita compared to the second highest payment of $42.87 to Ontario. These high grants were not a reflection of extravagance on the part of educators or the provincial government. Operating expenditures per student in Alberta universities in 1969-70 were $3,528 compared with $4,171 in Ontario, $2,597 in New Brunswick, and an average of $3,632 for all provinces. Greater federal support was in response to deliberate provincial policy–the assigning of high priority to both quantitative and qualitative growth in our universities, colleges and institutes.

Access to higher education for persons from lower-income families has been impeded by financial barriers. While both the provincial and federal governments have been sensitive to this problem, their attempts to resolve it have not been very successful. Yet, since 1965, the amount of money in the form of grants and loans available through the Students Assistance Act has increased by 250 percent. Between 1965-66 and 1970-71 Province of Alberta awards increased from $1.76 million to $6.19 million, whereas student loans, provincial and federal, increased from $3.99 million to $19.71 million. Of the total amount of loans made in 1970-71, $14.9 million came from the federal government through Canada Student Loans.

Although it is impossible to determine whether the past allocation of revenues among the various levels of education was the best, changes in allocation ratios are observable. Between 1950-51 and 1969-70 the proportion of total education expenditure incurred in basic education fell from 91.7 percent to 72.2 percent. In contrast, the fraction of total expenditures employed in higher education rose from 10.3 percent to 27.8 percent during the same period of time.

Although a large part of the increase in university costs can be attributed to a rise in student numbers, substantial expenditures were required to compensate for earlier deficiencies. For example, past salary levels of university teaching staff were seriously low in relation to other professions. High capital outlays were required to provide more adequate libraries, equipment and facilities at the universities of Alberta and Calgary, as well as for the establishment of another university at Lethbridge. Furthermore, a higher proportion of students became involved in graduate studies during the '60's, necessitating substantial investments in new programs. University expansion and upgrading were paralleled by rapid growth and improvement in our colleges and institutes. It is little wonder, therefore, that operating expenditures in higher education grew at such a rapid rate.

Since the early '50's the capital expenditures of school districts, divisions and counties have ranged between the equivalent of 20 to 33 percent of operating expenditures. More recently this proportion has been falling, and in 1971 capital expenditures were about $43 million–the equivalent of 12 percent of operating expenditures. In higher education, extensive capital spending began in the '60's and accelerated in the last half of that decade. Between 1960 and 1965 the average annual capital expenditures for universities was $13.6 million. By 1966 this spending had increased to $39.2 million annually. In contrast, the total capital spending for colleges and institutes during the same decade was in the order of $37.5 million.

In the previous two decades of comparative affluence in education, the availability of money was itself an incentive for achieving excellence in schooling. At the same time, however, some controls were employed in an effort to ensure prudent use of funds in the interests of both efficiency and quality. These controls in basic education have extended from curriculum guidelines and textbooks recommended by the province to the establishment of ceilings on expenditures and the provision for a plebiscite if supplementary requisitions go beyond a prescribed limit. By contrast, higher education has been subject to fewer controls. While provincial grants have customarily been based on numbers and types of students, little direction has been given to individual institutions in the use of these grants.

Albertans can be justifiably proud of their past performance in education. We have taken many steps toward improving equity, quality and efficiency in our institutions for schooling. But in view of present realities and future probabilities we cannot be content to rest. There is still a long way to go.

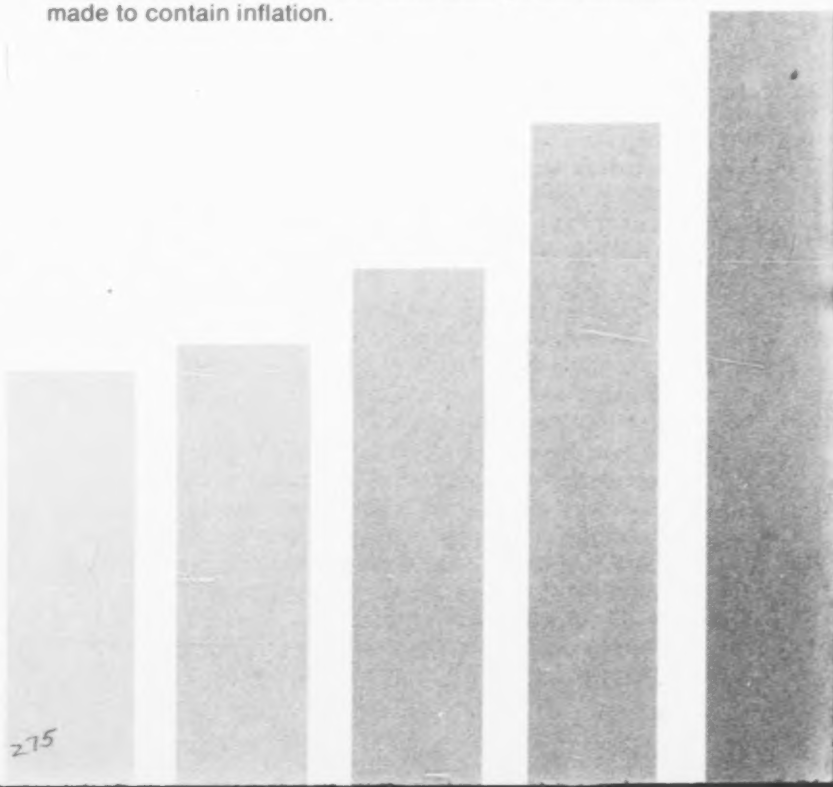
future expenditures

While basic and higher education have reached a relatively advanced state of development in Alberta, the same cannot be said for early and further education. A system of recurrent education based on lifelong learning now awaits priority attention to the very young and to the mature.

Greater attention to early and further education, combined with continued growth and change in basic and higher education and a general rise in the price levels of goods and services, will necessitate a substantial increase in future expenditures for schooling. Initially, this increase can be restrained by the application of the many suggestions for improving performance in process and in resource use given in previous sections of this report. In the long run, the application of technology with a corresponding decline in the construction of special facilities and in labor-intensity may also serve to contain the rate of growth in expenditures.

The forecasts of future expenditures that follow are based on the foreground of this report and the background of past experience. The accuracy of these forecasts is dependent upon the appropriateness of the assumptions made about the Alberta economy and the acceptability of many of the proposals advanced by the Commission. The level of accuracy is further inhibited by the crude state of the art of economic analysis and prediction. Therefore, it cannot be stressed too strongly that these fiscal projections are at best a reasonable guess about the future condition of educational finance in the province, and not a precise assessment of requirements. Indeed, this inability to provide exact long-term dollar specifications dramatizes the need outlined in the previous section on planning for a re-assessment of future fiscal requirements on a regular basis.

Expenditures are classified as being either operating or capital. Operating expenditures for a given year consist of those educational expenditures that account for administration, instructional aids and supplies, instructional salaries, auxiliary services (i.e., transportation and residence subsidies), plant operation and maintenance, as well as charges for debt services or leasing of facilities. Such expenditures are derived by calculating the product of projected operating expenditures per student, for a given educational level, by the anticipated student enrollment of the same year. It is assumed that future operating expenditures per student, regardless of educational level, will increase by 5.5 percent due to price and salary increases, and that attempts to improve the quality of education will require an additional 2.5 percent increase each year until 1980. In other words, no unusual changes in past trends are anticipated during the '70's. For the period 1980 to 1990, provision is made for a high and low estimate of per student costs based on combined annual price and salary increases of three and five percent. The reduction in incremental change of operating expenditures after 1980 is a consequence of two assumptions: first, it is expected that expenditures for improvements in the quality of education will be limited to costs of implementation because of the introduction of a research and development fund; second, it is anticipated that a more successful attempt will have been made to contain inflation.



Those outlays referred to as capital expenditures are those employed for the renovation of already existing buildings, as well as the construction and furnishing of new facilities. Essentially, these expenditures are a function of the nature of the programs provided and the numbers of students participating in them.

In projecting expenditures over the next 15 years many other assumptions have to be made. It is recognized as inevitable that many of these assumptions will be challenged since they revolve around issues having important expenditure implications. Perhaps the most fundamental and controversial assumption is that the changes in schooling proposed by the Commission will have little effect on the total future expenditures of our educational system. This assumption is grounded in the expectation that although some proposals will incur additional expenses, others will result in savings. For example, the proposed reduction in the length of university degree programs and the introduction of the Alberta Academy could permit a redirection of funds to early education. In basic education, increased use of volunteers and learning assistants could help compensate for increased expenditures on learning resources. And in both basic and higher education reducing and rescheduling low-enrollment courses and uneconomic programs could yield resources to be applied to further education.

early education

At present, the cost of early education prior to Grade I is primarily borne by parents through fees. As a consequence, children who "have" are getting more, and those who "have-not" are getting comparatively less. To bridge this gap, the Commission has already urged public funding of early education.

It is expected that the major benefactors from early education will be disadvantaged and handicapped learners. The costs of realizing the benefits of prevention and early remediation are most likely to be more than offset by the savings on later, more expensive treatment.

Two factors loom large when estimating fiscal requirements in early education. One is the high degree of program variability advocated in Sections III and IV that will, undoubtedly, widen the range of per pupil expenditures. The other is the lack of historical data on similar programs that could be used as a baseline for future estimates. However, assuming most children will participate on a half-day basis, average per pupil expenditures ought to be less than those expenditures which will be incurred for basic education. But since the learner-

adult ratio is expected to be lower than that in basic education, it cannot be presumed that per pupil operating expenditures will be exactly half of those required for what is now known as elementary education. This lower learner-adult ratio will be particularly evident in the schooling of disadvantaged and handicapped children. Therefore, it is anticipated that the per pupil expenditure requirement for the provision of selective experiences for three- and four-year-olds will be approximately 75 percent of elementary education expenditures per pupil. In universal opportunity programs for five-year-olds, this ratio is expected to be a little more than half of per pupil expenditures in elementary education, since the majority of these students will not be handicapped or disadvantaged and so will not require as much special attention. Accordingly, the estimated average operating expenditures per pupil for selective experiences and universal opportunities in early education for 1975 will be $750 and $550 respectively.

On the basis of these per pupil cost estimates and the anticipated enrollments noted on page 66, total provincial expenditures for early education in 1975 will be just over $21 million, with $14 million going toward universal opportunity programs. By 1980, the total annual expenditure for early education will rise to about $48 million. It is anticipated that the variable sponsors of early education programs will, whenever possible, make use of existing facilities rather than construct their own buildings. This will reduce to a minimum the need for capital expenditures. However, allowances for lease space, as well as debt charges for necessary construction, are included in the estimates shown in Table 8.

To complement both selective and universal early education opportunities, it is proposed to develop an Early Ed television series. To make such televised learning operational by 1975 would require development funds of approximately $2.4 million.

Public funding of day-care for some three-four-and five-year-old children, and for those below age three, is not included in the foregoing estimates. Meaningful projections of these contributions await further consideration of this activity by the proposed Division of Early Education in the Department of Education.

basic education

Earlier in this report the Commission has argued that the achievement of equity in schooling requires differential allocation of provincial funds. Such a policy contradicts the fiscal equalization assumption underlying the present School Foundation Program Fund. The application of this policy would require funds for basic education beyond those that would account for normal increases in enrollment, price levels and quality of program.

In 1968-69, the average per student operating expenditure in basic education was about $650. This amount includes outlays covered by both provincial grants and supplementary requisitions. Assuming $650 is an adequate bench-mark,

Table 8
Estimated Operating Expenditures for Full-Time Schooling by Activity or Institution for Selected Years

Activity or Institution	1975	1980	1990 Low	1990 High
	in thousands of dollars			
Selective Experience	7,050	19,980	35,668	43,621
Universal Opportunity	14,080	28,118	49,476	60,648
Schools	485,438	690,143	1,150,240	1,391,585
Colleges and Institutes	63,625	124,410	203,512	248,670
Universities[1]	178,150	377,000	603,000	736,800
Total	748,343	1,239,651	2,041,896	2,481,324
	expressed as a percent of total operating expenditures			
Selective Experience	0.9	1.6	1.7	1.8
Universal Opportunity	1.9	2.3	2.4	2.4
Schools	64.9	55.7	56.4	56.1
Colleges and Institutes	8.5	10.0	10.0	10.0
Universities	23.8	30.4	29.5	29.7
Total	100.0	100.0	100.0	100.0
	expressed as a percent of total personal income			
Selective Experience	0.1	0.2	0.2	0.2
Universal Opportunity	0.2	0.3	0.3	0.3
Schools	7.3	7.4	6.2	7.5
Colleges and Institutes	1.0	1.3	1.1	1.4
Universities	2.7	4.0	3.3	4.0
Total	11.3	13.2	11.1	13.4

Sources: Calculated

[1] Expenditures exclude research awards.

future per student expenditures for basic education are expected to increase from $1,125 in 1975 to $1,665 in 1980. Combining the foregoing with the assumptions about enrollment given on page 68, it is calculated that the total annual operating expenditures for basic education in 1975 will amount to about half a billion dollars. By 1990, we will have passed the one billion dollar mark.

Capital expenditures in basic education for the next decade are expected to be equivalent to 10 percent of operating expenditures. Although total enrollment will drop, continued urbanization will create a demand for renovation and replacement of older facilities, as well as for the erection of some new ones. When enrollments begin to climb again in the '80's, a 20 percent level of expenditures will likely be necessary. But given the changes in the learning transaction visualized earlier in this report, a return to the 1:4 relationship between capital and operating expenditures of past years is not anticipated. As indicated in Table 9, average annual capital expenditures will climb from $78 million to $125 million by 1980.

higher education

Extension of opportunities in higher education has already led to some differentiation among our institutions for higher education. Even more differentiation is envisioned in future years. Differentiation in function implies differentiation in resource allocation.

Table 9

Estimated Average Annual Capital Expenditures for Formal Schooling by Activity or Institution for Selected Years

Activity or Institution	1975	1980	1990
	in thousands of dollars		
Schools	48,544	69,014	230,000
Colleges and Institutes[1]	6,368	12,448	16,500
Universities	20,553	41,044	30,900
Banff Centre and AVTCs	500	1,200	600
ACCESS	2,200	2,200	2,200
Total	78,165	125,906	280,200

Sources: Calculated

[1] In addition annual leasing expenditures for Grant MacEwan College are estimated to increase from $1 million in 1975 to $2.8 million in 1980 and decline to $2.1 million in 1990.

colleges and institutes

In 1968-69, the average per student expenditure in our public colleges, agricultural and vocational colleges, and technical institutes was approximately $1,650 – a little more than half that in universities. This amount does not include debt charges since capital expenditures have not been financed through borrowing. Since it is proposed that future capital expenditures be financed by borrowing, then the base per student expenditure must be increased by five percent for debt or leasing charges before estimating future per student operating expenditures. By the end of this decade, it is assumed that annual per student expenditures will reach $3,770. Concurrently, substantial growth in enrollment is predicted in Table 1. The obvious consequence of both these increases is mounting costs. Indeed, by 1980, it is estimated that total annual operating expenditures for colleges and institutes will be just over $124 million.

To accommodate expansion in student enrollment, considerable capital outlays must be expected. They are estimated on the assumption that future expansions in technical institutes and colleges will require, on an average, 125 and 100 net assignable square feet for each additional student respectively. The term net assignable square feet (NASF) refers to the space required for the performance of the institution's functions. The space required for ancilliary areas, such as hallways, washrooms, administrative and lounge areas is taken into account by the level of expenditure per NASF.

To these estimates of space requirements must be added assumptions about building costs. In the case of technical institutes, basic construction expenditures are expected to increase from $35 per NASF in 1975 to $60 per NASF in 1990. For colleges, it is assumed that the basic expenditures will rise from $45 per NASF to $70 per NASF within the same time period. These estimates are for construction only. However, the average annual total capital expenditure, shown in Table 9, does include an allowance for new and replacement equipment, as well as some renovations. During the next three years, an average annual expenditure of $6.4 million will be required for capital expansion, increasing to $12.4 million by 1980. If more intensive use of facilities occurs in accord with the suggestions made in Section III, then some savings in capital expenditures may be anticipated.

universities

The projection of university expenditures is complicated by their research activities. Although some degree of imprecision is inevitable in separating direct research expenditures from instructional operating expenditures, some attempt to do so must be made since it would be irrational to assume that direct research funds should be a function of student enrollment.

Insofar as instructional operating expenditures are concerned, it is expected that per student expenditures will increase from the 1968-69 base value of $2,800 to $5,090 in 1975 and $7,540 in 1980. Again, a five percent allowance for debt or leasing charges is included. Given the estimated enrollments in Table 1, it is expected that the annual instructional operating expenditures will increase by 112 percent between 1975 and 1980; that is, from about $178 million to $377 million.

The greatest amount of direct financial support for the discovery function or research is provided by federal government departments and agencies. Provincial government departments and private associations are the next largest contributors. In the past, financial support from these sources has amounted to the equivalent of approximately 12 percent of instructional operating budgets. If this trend and relationship persists, then provincial funds devoted to research will increase from $21.4 million in 1975 to $45.2 million in 1980. Such expenditures would be additional to those for instruction.

Capital expansion is expected to reflect fluctuations in enrollment growth. It is assumed that an average of 120 NASF of space will be required for each additional student. The cost per NASF is expected to increase from $50 to $75 between 1975 and 1990. Total average annual capital outlays will increase from $20.5 million in 1975 to $41 million in 1980 and then decline to $30.9 million in 1990. These estimates include expenditures for new construction and equipment, renovations and equipment replacement. Again, more intensive use of facilities could lead to reduced capital expenditures.

alberta academy

Introduction of the Alberta Academy, as proposed in Section III would require initial operating expenditures of about $4.1 million. However, once the initial program is developed a decrease in subsequent operating expenditures may be anticipated. If the Alberta Academy and its related strategies for learning are extensively employed, then the foregoing expenditure forecasts for universities and colleges might be scaled down. For example, Athabasca University may not require a large conventional campus, and the costs of instruction in many first-year programs could be reduced.

further education

Future operating expenditure estimates for further education are limited to those services provided by our present institutions for schooling. They are calculated on the basis of the assumptions noted in Table 5 and in Table 10. The rather arbitrary nature of many of these assumptions makes it more appropriate to consider the relative size of the expenditures rather than their specific amounts. Annual operating expenditures are expected to increase from $17.3 million in 1975 to $23.8 million by 1980.

No direct capital expenditures for further education are anticipated for our schools, colleges, institutes and universities beyond those provided for full-time students. Only the Banff Centre and the AVTCs at Fort McMurray and Lac La Biche require special facilities. These are estimated to require total capital expenditures of only $7.5 million by 1980.

complementary services

The delivery systems of public education costed thus far must be complemented or supported by a number of other services. Among the more important are research and development to improve the quality of schooling; two education departments to coordinate activities and give leadership-service in planning; financial assistance for students to achieve greater equity in schooling; and the ACCESS network to sustain Early Ed and the Alberta Academy. In the past, expenditures for some of these essential services have often been given low priority. In the future envisioned in this report, they will warrant much higher priority. Indeed, the total annual expenditures for these four services could well reach $74.8 million by 1980, or 5.6 percent of total expenditures.

research and development

In Section V it is proposed that funds equivalent to one-half percent of the provincial government's contribution to the operating expenditures for all four levels of recurrent education in the previous year be allocated annually to research and development. If the application of these funds yields substantial benefits, then little difficulty is foreseen in increasing the proportion of the educational budget used for R&D to one percent by 1980 and two percent by 1990. On this basis the Research and Development Board would have at its disposal $2.8 million in 1975 and $8.6 million by 1980.

Table 10

Estimated Operating Expenditures for Further Education by Activity or Institution for Selected Years

Activity or Institution	1975	1980	1990 Low	1990 High
	in thousands of dollars			
Early Ed[1]	2,400	1,400	1,900	2,300
Schools[2]	873	1,554	2,543	3,126
Colleges and Institutes[2]				
Part-time credit	254	500	787	961
Extension	675	1,320	2,120	2,600
Universities[2]				
Part-time credit	2,113	4,467	7,150	8,733
Extension	1,872	3,941	6,300	7,680
Alberta Academy[1]	4,130	3,215	4,300	5,200
Banff Centre and AVTCs[1]	5,000	7,400	9,900	12,000
Total	17,317	23,797	35,000	42,600

Source: Calculated

[1] Based on assumption regarding price changes and quality improvements.

[2] Only instructional expenditures are considered. These are based on an average enrollment of 20 students per class and the following cost per class:

	in dollars			
Schools, Colleges, Institutes, Banff Centre, AVTCs	405	600	795	975
University Extension	1,600	2,360	3,150	3,840
Higher Education Part-Time Credit	2,415	3,574	4,767	5,822

student assistance

A growing cost of schooling is the provision of financial assistance to students, particularly those enrolled in higher education. The basic reason for meeting certain living expenses of students by grants or loans is to promote equity in schooling–to try to ensure that those who want to learn are not deterred by lack of personal income or financial help from parents.

In a society committed to the concept of universal access to higher education rather than universal attendance, increasing attention must be given to the provision of such financial assistance. However, to equalize opportunities does not require that all persons receive identical financial assistance. Rather the amount of aid provided should depend primarily on the student's financial circumstances. Determining these circumstances will be made more difficult in future because of the newly-acquired adult status of 18-year-olds. An increasing number of students are apt to claim fiscal independence from their parents. Were all such claims recognized by the Students Finance Board the cost implications would be imposing.

On economic grounds alone, the majority of students should still be considered as a charge of their parents. However, a more compelling reason in an era of expanding need for higher education, is the moral obligation on the part of parents to give as much help as possible to providing their off-spring with every educational opportunity from which they can benefit. In applying these two guidelines, the Students Finance Board ought still to recognize the impact of serious family rifts on a student's financial position. Indeed, the board will have to sharpen both its criteria and procedures for assessing the fiscal independence of a student for grant purposes.

Numerous and complex formulas may be devised for student assistance involving various combinations of personal loans, grants and methods of repayment. In becoming embroiled in a detailed analysis of the advantages and disadvantages of such schemes, it is possible to lose sight completely of the intent of student assistance. To avoid not seeing the student for the schemes, this report confines itself to elaborating some guidelines for financing student learning.

The fundamental element in any assistance program should be a grant system in which the dollar amount received by the student bears an inverse relation to some measure of family income that indicates ability to pay. Students from a family with an income of less than a given amount annually ought to be eligible for a full grant; the maximum value of such a grant being sufficient to provide for the full costs of schooling–fees, subsistence, books, supplies, and the like. Such grants would decrease as the measure of family income, used to calculate the value of the grant, increases. This type of grant structure is deliberately selective. It discriminates in favor of the economically disadvantaged, rather than attempting universal assistance. A theoretical example of such a sliding scale grant scheme is outlined in Figure 17.

The eligibility of students in basic and higher education for these accessibility grants should be dependent on their being a resident of Alberta. Such grants should, of course, be payable to persons wishing to pursue a suitable program not available in the province. Continuation of any grant would have to be dependent on the successful completion of a previous unit or term of work. Students wishing to alter their career pattern, or substantially alter their initial program, ought to bear the consequences of this reappraisal, at least to some degree. Among these consequences might be ineligibility for a further grant until a unit or term of the new program has been successfully completed.

Like any other proposal for student assistance, this one is not without some weaknesses. Determination of the measure of family income to be used will be difficult. Similarly, scale adjustments to account for assistance to a second or third family member, and for the limitations arising from the total funds available, will require careful study. These difficulties notwithstanding, a grant scheme conceived in accordance with the foregoing guidelines should provide an incentive and an opportunity for those now at a disadvantage in our society to engage in further learning without the imposition of heavy debts in the future.

Figure 17
Example of a Sliding Scale Grant Scheme

Relationship of Parental Income to a Measure of Required Income	Percent of Full Grant Available
Up to 1/4	100
1/4 to 1/2	90
1/2 to 3/4	80
3/4 to required income	70
Required income to 5/4	60
5/4 to 6/4	50
6/4 to 7/4	40
7/4 to 8/4	30
8/4 to 9/4	20
9/4 to 10/4	10
Beyond 10/4	0

Because of the conditional nature of these grants, it appears that a fund of $30 million would be required for this purpose by 1975, increasing by a minimum of $3 million in each subsequent year. This sum may appear substantial in light of the fact that in 1970-71 the province only provided $6.19 million in grants and scholarships. However, that same year almost 50 percent of our higher education students found it necessary to borrow over $19 million through the Students Finance Board. Assuming that these conditions excluded many able students from low-income families, an initial amount of $30 million is not extreme. Indeed, it offers equity in recurrent education at bargain-basement prices.

The demand for grants could be reduced if the concept of life experiences described in Section IV were acted upon, and learners received some financial remuneration for the work experience part of any work-study program. The provincial government should encourage this alternative by providing some seed money for such placements. Alternatively or additionally, another way of counteracting high expenditures for grants, would be to establish a temporary or rotating civil service program. But most effective of all would be extensive use of the Alberta Academy, and the ACCESS network with associated learning systems.

Emphasis on the provision of grants as a major form of student assistance is based on the assumption that many good students might be discouraged from participating in higher education because they are fearful of debt. Recent Scandinavian experience with student loans would tend to question this assumption. Therefore, the Students Finance Board should continue to provide additional student assistance by means of loans that would supplement the grants to individuals who might not qualify for what they consider to be adequate support. Students wishing to be independent of parental support might be particularly interested in such loans. It is assumed that funds for this purpose will be provided by the federal government in increasing amounts.

The whole question of loans versus grants, or part-time earning while learning opportunities, may well have to be reconsidered in relation to future changes in social security arrangements. Earlier a call was issued for a better and a different balance of education, work and leisure throughout one's life span. If this call is heeded, many currently cogent reasons for grant and loan schemes are likely to evaporate. For instance, the development of a contributory fund for further education suggested in Section III, or of the educational bank advocated in Section IV, would invalidate much of what has just been said in this report.

Further forms of assistance that must be considered are scholarships and assistance to graduate students. Scholarships recognize excellence in studies, independent of the economic status of the student receiving the honor. While pursuit of excellence is to be commended, its recognition in the form of a financial award from public funds is questionable. If it can be assumed that the major recipients of these awards will continue to come from higher socio-economic groups, then scholarships appear to stand in contradiction to the principle of equity. Yet they are not without some value as an incentive for top performance. For this reason, various institutions for schooling may choose to maintain or establish scholarships from private endowments.

The principal form of financial assistance to graduate students should continue to be based on remuneration for tasks carried out within the university. This work experience must, however, be challenging and contribute to career development. Skill acquisition in teaching, research or public service should be its central aim–not mere service to a professor. To date, provision for assistantships has been made in the operating expenditures of each university. Since the employment of graduate students to help perform the functions of the institution can lead to lower personnel costs and improvements in the learning transaction, budgeting for them should continue on the present basis.

access

Preliminary cost estimates for the first phase of the ACCESS network are given in Table 6. Annual operating and total capital expenditures are anticipated to be in the order of $1.1 and $31.1 million respectively.

private schools and colleges

Developing a rational basis for public support of private schools and colleges is very difficult. The submission of the Association of Private Schools and Colleges in Alberta suggests that the present grant to private schools of $150 per full-time student is sufficient to ensure the continuance of many of the well-established private schools. If this is so, then a grant of this magnitude–with annual adjustments for inflation–may also be appropriate in the years ahead. Grants for privately-sponsored early education programs might also be paid on a comparable basis.

In the case of private colleges, a few of them are located in parts of the province that are not adequately serviced by the public colleges or universities. These colleges should be eligible for substantially larger operating grants than private schools, provided that they meet the requirements of the Department of Advanced Education and do not needlessly duplicate services of public institutions. The present grant provided to private colleges is restricted to those courses acceptable to the Department of Advanced Education and amounts to approximately 75 percent of the operating grant that the college would receive if publicly operated. As with private schools, it is difficult to prescribe an ideal grant structure for private colleges. Therefore, provided the present grant structure does not unduly inhibit the success of the proposed Alberta Academy, it should be maintained–but subject to periodic review.

Since the numbers expected to become involved in private schooling are likely to be very small, they have been accounted for in the projections of future operational expenditures for public institutions. The effect that action in accord with the changes in process and structure advocated in this report would have on these enrollments is uncertain. Thus, it would be unwise for the provincial government to provide capital grants for renovation or new construction at such institutions. It might, however, guarantee mortgages for private schools and colleges that are helping to meet demonstrable social needs.

departments in education

The recent and proposed reorganization in the two departments in education complicates estimation of their fiscal requirements. In 1968-69, operating expenditures of the Department of Education and the two coordinating commissions in higher education were approximately $7.7 million. Assuming the same rate of cost escalation used earlier applies in this case, it is anticipated that expenditures for the Department of Advanced Education and the Department of Education will grow to $13.3 million by 1975 and to $19.6 million by 1980.

Uncritical acceptance of the assumption underlying these estimates is to acknowledge the inevitability of Parkinson's Law regarding the growth of governmental departments. Steps should be taken to limit the growth of new positions and to curtail automatic replacement appointments. Such action will not only restrain expenditures, it will also help decentralized control to flourish.

total expenditures

Some forecasters have taken pessimistic pride in predicting that Canada's GNP could be completely used for education and health within a few years if the present rate of increase in these expenditures continues. Such predictions not only have a negative effect on public attitude towards schooling, they are also naive and misleading.

Certainly we will need to spend more money on schooling, but not in the amounts suggested by the prophets of doom. Furthermore, we have entered an era in which a diminishing proportion of our human resources will be directly associated with the actual production of goods. Since 1966,the proportion of the labor force in Alberta involved in providing various services has increased by more than 5 percent Each of these services by definition is labor intensive. This means that more people must be employed to make them more effective

–and costs rise accordingly. Education is one such service. If it is to play a vital part in our lives, then we are going to have to invest accordingly.

Projecting the total costs of schooling, including individual contributions for items like books, board and room, and foregone income, is a gargantuan task. Thankfully, it is not part of the Commission's mandate. Neither is the provision of detailed cost estimates for specific programs. Although precise estimates will be required as changes are implemented, the presentation of such data now–even if it were possible–runs the risk of being outdated shortly after its release. Moreover, the probable results of such efforts would be to divert people from reflection and debate about guidelines or principles to niggling arguments over dollar figures. Thus, the information about total expenditures presented in Table 11 requires cautious interpretation in seeking answers to the four basic questions about educational finance posed on page 272.

In relation to the question regarding the amount of personal income to be allocated to future schooling, it appears that about 12.3 percent will be required in 1975. This amount compares favorably with the present allocation of about 10 percent of personal income considering the improvements that would be possible.

Insofar as the future allocation of resources among the various levels of recurrent education is concerned, it is apparent that higher education will require a greater proportion of total expenditures than at present. So, too, will early and further education. This obviously means that resource allocation to basic education will decline. This decline will, of course, be in relative terms–aggregate expenditures in basic education will increase. It should be remembered, also, that this relative decline still provides for required qualitative improvements.

Is this an appropriate division of resources? Is it the best one? Answers to such questions are usually subjectively determined and strongly influenced by the momentum of prevailing spending patterns and priorities. Although the technology of planning described in Section V can be used to gather some relatively objective data about cost/benefits and rates-of-return, such information has rarely been a decisive factor in the political process for setting priorities. More frequently, optimum resource allocation is apt to be defined as that point at which the public's faith in particular programs is matched by their willingness to pay for them. In these circumstances, about the only thing that can be said with some degree of certainty about the resource allocations suggested in Table II is that they reflect the priorities of the Commission on Educational Planning.

While debt charges are included in estimates of operating expenses, it is important to note the magnitude of the capital requirement in coming years. As indicated in Table 9 approximately $3.7 billion will be required over the next 15 years unless greater use is made of lease space and existing non-school facilities that could serve an educational purpose.

Table 11

Estimated Operating Expenditures for Recurrent Education by Activity for Selected Years

Activity	1975	1980	1990	
			Low	High
	in thousands of dollars			
Full-time Schooling	748,343	1,239,651	2,041,896	2,481,324
Further Education	17,317	23,797	35,000	42,600
Complementary Services				
Research and Development	2,820	8,592	28,600	34,600
Student Grants	30,000	45,000	75,000	75,000
ACCESS	1,085	1,600	2,100	2,600
Departments in Education[1]	13,271	19,641	26,200	32,000
Total	812,836	1,338,281	2,208,796	2,668,124
	expressed as a percent of total operating expenditures			
Full-time Schooling	92.1	92.6	92.4	93.0
Further Education	2.1	1.8	1.6	1.6
Complementary Services	5.8	5.6	6.0	5.4
Total	100.0	100.0	100.0	100.0
	expressed as a percent of total personal income			
Full-time Schooling	11.3	13.2	11.0	13.4
Further Education	0.3	0.3	0.2	0.2
Complementary Services	0.7	0.8	0.7	0.8
Total	12.3	14.3	11.9	14.4

Source: Tables 7-10
Calculated

[1] Includes expenditures for School for the Deaf and Correspondence School Branch.

1 CENT
1971
CANADA
KG
1 CENT
1972
CANADA
KG
1 CENT
1971
CANADA

future revenues

To decide how the cost of schooling should be shared among the individual and the several units of government, we need to understand what our future sources of revenue could be. We also need to know, of course, if future revenues can sustain the level of expenditures just forecast.

The analysis of future revenues which follows is rooted in three views that were repeatedly drawn to the attention of the Commission. One is that there should be a reduction in the relative tax burden of individuals or families living on low or fixed incomes. The second is that a major portion of the revenues for schooling should be derived from tax bases that are responsive to changes in the level of personal income. And the third is that to facilitate the flexible and efficient use of resources no particular tax base should be assigned to a specific service.

local government revenues

The power to govern is generally associated with the ability to raise revenues through the imposition of a levy. Historically, basic education and property tax have been closely wedded as a consequence of this belief–for the major tax base available to local jurisdictions has been the property tax. Because of this close relationship, an attack on the use of property tax for basic education is often construed as an attack on the sanctity of local control. But sometimes in our efforts to preserve local control we often overlook the financial hardships that the property tax levy may place on the taxpayer.

These hardships occur because of at least three major deficiencies in the tax itself. First, the amount of real property held by an individual is no longer a reliable indicator of the current wealth or income of an individual. Thus, the possession of real property is a poor measure of the ability to pay any tax.

A second deficiency of the property tax is its effect on persons with fixed or low incomes, particularly the aged and infirm whose income is principally a pension. Although the base of this tax is real property, the tax levy is paid out of current income. Hence, any increase in assessed value of property held or leased by people on fixed or low income results in an increased tax burden on such individuals if a corresponding increase does not occur in pension or income.

The third imperfection of property tax support for basic education stems from the unsuitability of a local tax to provide provincial benefits. When the benefits of education were essentially retained in the community, then the application of property tax revenues to schooling was reasonable. Albertans are now very mobile and are likely to become even more so. As a result, schooling benefits provided by one local community come to affect many other communities. This growing interdependence of communities underlines the limitations of local taxation for educational purposes and emphasizes the critical role of provincial and federal fiscal support.

Despite the fact that property tax revenues continue to increase, its deficiencies appear to have convinced a large number of Albertans that the provincial government should assume fiscal responsibility for early and basic education, but with some opportunity for financial enrichment at the local level. This latter condition is of vital importance as a means of enabling local authorities to maintain their own priorities.

provincial government revenues

Provincial revenue sources are limited by legislation to direct forms of taxation imposed on income and goods or services. Fees and licenses may also be viewed as taxes, but these are based more on benefits received than ability to pay. Presently in Alberta the province has two major sources of revenue: income tax and funds accruing from the depletion of natural resources. The remainder of its income is derived from numerous fees, licenses and levies.

The province has benefited greatly from nature's generous gift of fossil fuels. In the past, the revenues derived from the petroleum industry alone have accounted for an average of 40 percent of total revenues collected on the provincial income account. Since much of this revenue is provided by non-residents, the overall tax burden of all Albertans has been considerably lighter than it might have been. The province has also made extensive use of income tax. Currently it has the highest provincial income tax rate of the more affluent provinces. The appeal of income as a tax base is its responsiveness to changes in personal income. It is possible to establish an income tax rate in such a manner that increases in the tax base will provide revenue increases in excess of the inflation rate, without continuous revision of the tax itself.

Rising expenditures, combined with scaled down use of the property tax for schooling, will obviously require the provincial government to assume greater fiscal responsibility in the educational field. For a time, this responsibility could be partially met by reducing or freezing grants given to homeowners and municipalities, assuming that revenues from the property tax are directed toward providing local benefits. But, sooner or later, it will be necessary to consider more intensive use of present revenue sources, or the cultivation of new ones.

A potential increase in provincial income may be expected in the forthcoming review of revenues derived from the depletion of oil and gas reserves. But long term reliance on this revenue is hazardous. The life-index of our fossil fuels in the face of the high energy requirements of the North American way of life is a matter of considerable controversy–exhaustion may be closer at hand than was previously supposed. At the same time, oil and gas revenues fluctuate. For example, between 1950 and 1968 they varied between 30 and 50 percent of total provincial revenues. This potential for variation is a serious limitation. Over-dependence on the sale of a few commodities could lead to disruptions in the flow of revenues similar to those experienced in Saskatchewan because of its heavy reliance on grain and potash sales.

Although the responsiveness of the income tax to changes in personal income makes this tax attractive for increasing revenues, too high a tax rate could create unfavorable attitudes toward investment and work that might have a bad effect on the provincial economy. Accordingly, any increases in personal income tax ought to be gradual. If the personal income tax rate based on the 1970 system increased by one percent in 1973, and every five years between 1975 and 1990, then the increment in these revenues for 1980 and 1990 would amount to approximately $45 million and $179 million respectively. Such an increase would not, however, close the revenue gap created by removing the 30 mill provincial levy against real property.

Another way to add to provincial revenues is by instituting a general sales tax. Alberta is the only province that does not have such a tax. There are probably two key reasons for this delay: extensive depletion of natural resources and high income tax rates–both of which have offset at least until now the need for a sales tax.

There is growing acceptance of the inevitability of a general sales tax. Consequently, objections to its introduction are mainly based on its potential inequity. Such a tax is levied upon the consumption of goods and services. Since people of low or fixed incomes have to use a major portion of their income on consumption, then the greatest burden of this tax can fall on this segment of the public. However, the regressiveness of this tax may be reduced by excluding from taxation certain categories of goods and services such as food and shelter, on which lower income groups spend proportionately more. In fact, recent research on the effects of the Ontario Retail Sales Tax indicates that it is indeed possible to design a sales tax that is slightly progressive. Perhaps the greatest appeal of such a tax lies in the fact that it is paid frequently and in small amounts. Therefore, it is unlikely to influence many economic decisions to a high degree.

The implementation of a retail sales tax could make a substantial contribution to schooling revenues, providing an amount equivalent to the sales tax revenues were allocated by the government for educational purposes. For instance, a five percent general retail sales tax with food and drugs exempt could produce revenues in excess of $277 million and $522 million in 1980 and 1990 respectively.

To increase governmental revenues through changes in tax structure is never popular because the public seldom relates the benefits received from governmental spending with the tax burden that must be imposed. Many vociferous attacks will be mounted against any proposed increase in tax rates, or the adoption of new taxes. Naturally, provincial legislators will be attracted to that measure of increasing revenues which appears to be the least objectionable. Since the more vocal objectors will probably belong to high income groups, care and fortitude will be needed to avoid overburdening low and fixed income groups.

50%

federal grants

The present Fiscal Arrangements Act, now under review, requires that the provinces receive directly from the federal government either 50 percent of the operating cost of higher education programs, or an amount per capita based on average operating expenditures. In defining costs of operation, items such as depreciation, interest, rentals, and other capital costs, together with student aid and costs indirectly related to the educational functions of the institutions, are no included. Since debt charges can absorb up to 5 percent of operating expenditures, further provincial relief from higher education costs would result if the federal government included these factors in the upcoming review of the Fiscal Arrangements Act.

A principal justification for the introduction of federal grants to higher education in 1951 was to ease interprovincia student mobility. Data gathered in 1968-69 reveals that Alberta's institutions for higher education are not overpopulated with out-of-province students–10.4 percent compared to 14.3 percent in Ontario and 26 percent in New Brunswick. It is apparent, however, that greatest student mobility occurs at the graduate level, especially with regard to international students. Upon completion of graduate studies, student migration in search of employment is commonplace. Mobility is more likely to increase than decrease in the decades ahead. It is reasonable, therefore, to expect the federal government to continue financial aid to higher education. But because of the particularly high costs involve in graduate studies where most of the movement occurs, the province should urge the federal government to upgrade its contribution at this level.

Substantial research funds are awarded to Alberta universities by federal government departments and agencies. Generally, acceptance of these awards calls for related expenditures from provincial funds for services and equipment equivalent to about 35 percent of the outside money. In 1969-70, for example, when federally assisted research in Alberta universities approached $7.7 million, a further $2.7 million from university revenues was required.

The discovery function is an important activity of universities. But the pursuit and acceptance of grants from outside sources to help support the discovery function often affects performance of the career, criticism and integration function Graduate studies tend to be accorded more status and attention than undergraduate studies. From the standpoint o expenditures, the build-up of more costly graduate programs to facilitate the discovery or research function usually leads to resource starvation for the others. Thus, in addition to attempting to influence the federal government to extend research grants to cover associated expenditures, a review of research policy in Alberta universities should be undertaken. An obvious place to start is with an assessment of the implications for Alberta institutions of the proposals advanced by the Commission to Study the Rationalization of University Research sponsored by the Association of Universities and Colleges of Canada (AUCC).

student fees

Student fees are another source of revenue–a source that is now limited to those levels of schooling in which participation is voluntary, namely early, higher and further education. To extend the use of fees into basic education, which is obligatory, would be a retrograde step in both efforts to provide equality of educational opportunity and to lighten the levy burden of low income families. Furthermore, if the use of a fee structure is continued in early education where participation is expected to be optional, then it is foreseen that those children who stand to benefit most from such schooling will not be able to attend because of family fiscal limitations. It must be concluded, therefore, that this source of revenue is not suitable for either early or basic education.

At the level of higher education, it is envisaged that participation will remain a matter of choice based on greater equality of access. Earlier proposals regarding student assistance are intended to further this development. It is the expenses of living–not fees–that is the critical economic factor in a person's decision to enter or continue with higher education. Hence, the use of fees as a revenue source in higher education will not have a significant effect on access when an appropriate grant scheme is in operation.

At present, the major burden of higher education expenditures is borne by the provincial and federal governments. Student fees, on the average, cover only about 14 percent of these expenditures. The utilization of public funds to support higher education, in addition to providing student grants, brings the principle of equity in conflict with ability to pay taxes. By shifting a major portion of the financial burden for higher education from students and their families to taxpayers in general provides a greater opportunity for equity. But, at the same time, taxpayers include many low income earners who are less able to pay taxes than higher education students and their parents. The result is that the poor end up subsidizing the schooling of the rich. To compensate for this inequity, student fees in higher education should be raised. Corresponding increases in grants would enable those students from low income families to make this larger expenditure, whereas those from high income families would have to rely more heavily on parental support. This arrangement could yield additional revenues from high income families while allowing some reduction in taxes for the poor.

Raising the level of student fees in higher education is an adaptation of market price discrimination; that is, charging what the traffic will bear. But what will the traffic bear? There is no easy answer to this question. Clear-cut criteria for use in determining what portion of higher education costs ought to be borne by the student simply do not exist. Any answer is therefore value-loaded and arbitrary. It is a political decision, not a scientific one.

In the judgment of the Commission an increase in student fees to around the 25 percent level of program cost is warranted in the interests of equity and efficiency. Setting fees on this basis would have the effect over time of altering the class composition of occupational groups. It would also mean that our colleges, institutes and universities would have to sharpen their cost accounting procedures, and exercise e considerable prudence and imagination in the use of resources. Fees for non-Canadian students should be set at a substantially higher level assuming that those of modest means will be subsidized by the federal government as part of our contribution to the world community as suggested earlier on page 149. Certainly there is no justification for taxing low income Albertans to educate the offspring of wealthy residents of other countries.

By contrast, some reduction in the reliance of student fees as a revenue source is required in further education. Because of meagre public funding, most programs in further education have been operated on a pay-as-you-go basis aided by a little panhandling. Our efforts in schooling at this level have often, therefore, been sporadic, haphazard and ineffectual. That this will not be tolerable in the future has already been argued elsewhere in this report.

Determining the level at which student fees in further education should be set is perhaps more difficult than in higher education. The weight assigned ought to vary with the purpose of the activity or course, and with personal income. For instance, further education related to the motivation and emancipation functions should probably be available without fee because major benefits eventually accrue to society. Schooling related to the career function has individual, employer and social benefits and the fee structure could reflect this. The integration function is highly personalized.

Here the level of fees might be tied more to individual income on the assumption that programs of this type should be competitive with other goods and services, and provided on the basis of demand.

Pending the development of a detailed rationale for determining relative contributions of individuals, employers and governments to further education, the Commission has assumed that at this level student fees will, on the average, account for 50 percent of total expenditures with the federal contribution amounting to about 25 percent. It also urges that clarification of funding arrangements be a priority undertaking of the proposed Division of Further Education in the Department of Advanced Education.

total revenues

The total revenues available for future schooling are summarized in Table 12.

If no change were made in the present provincial tax structure, then by 1980 it is estimated that total provincial government revenues will reach $2,082 million, about 23.1 percent of projected provincial personal income. By comparison, provincial government revenues totalled about $813 million in 1968, or 20.1 percent of provincial personal income. The increased proportion of personal income expected to be available to the province reflects the progressive nature of our tax system.

The impact of certain changes in the tax structure on total revenues is shown in Table 13. For example, the inclusion of a 5 percent retail sales tax, excluding food and drugs, would increase total revenues to $2,359 million in 1980. If the personal income tax rate were increased by 1 percent in 1973, and every five years thereafter beginning in 1975, then $45.2 million could be added. And if both a sales tax were added and income tax increased, total revenues in 1980 would approach $2,404 million. Reductions in provincial revenue from removal of the levy against property could be offset by alterations in grants to municipalities and increased resource royalties.

allocation of revenues

With no change in the tax structure, the provincial government's share of future expenditures for schooling is expected to reach $611 million in 1975 and $934 million by 1980.

Table 12

Estimated Principal Revenues for Recurrent Education by Level and Source for Selected Years

Level Revenue Source	Percent Contribution	1975	1980	1990 Low	1990 High
		in thousands of dollars			
Early Education					
Provincial grant	100	21,130	48,098	85,144	104,269
Basic Education					
Provincial grant	98.5	478,156	679,791	1,132,986	1,370,711
Federal grant	1.5	7,282	10,352	17,254	20,874
Higher Education					
Student fees	25	60,444	125,352	201,628	246,367
Provincial grant	25	60,444	125,352	201,628	246,367
Federal grant	50	120,887	250,705	403,256	492,735
Further Education					
Student fees	50	8,658	11,898	17,500	21,300
Provincial grant	25	4,329	5,949	8,750	10,650
Federal grant	25	4,329	5,949	8,750	10,650
Complementary Services					
Provincial grant	100	47,176	74,833	131,900	144,200
Total					
Student fees		69,102	137,250	219,128	267,667
Provincial grant		611,235	934,023	1,560,408	1,876,197
Federal grant		132,498	267,006	429,260	524,259

Source: Tables 8, 10, and 11.

Table 13
Estimated Provincial Government Net General Revenue from Various Tax Systems for Selected Years

System	1975	1980	1990
	in thousands of dollars		
1971 tax system	1,518,756	2,081,734	3,744,919
1971 tax system + 5% retail sales tax	1,719,906	2,359,514	4,267,119
1971 tax system + 1% increase in personal income tax rate every 5 years	1,538,120	2,126,954	3,924,146
1971 tax system with changes in personal income and sales tax	1,739,276	2,404,734	4,446,345

In 1970-71 about 36 percent of provincial revenues were allocated to schooling, when expenditures for programs proposed for consolidation in the two education departments are included. Were the provincial tax structure to remain unchanged, and if the 30 mill levy were replaced by funds from general revenues, schooling's share of provincial revenues would rise to 40.2 percent and 44.9 percent in 1975 and 1980 respectively. As noted in Table 14, however, modifications in the tax structure could substantially alter the allocation required by the educational enterprise. For example, the use of the retail sales tax could reduce the share to 35.5 percent in 1975 and 39.6 percent in 1980. Combined use of a sales tax and more income tax could drop it to 35.1 percent and 38.8 percent for these same years.

It is quite evident that the province's share of the bill for future schooling will not pose any serious hardship. With moderate changes in the provincial tax structure it would be possible to keep educational expenditures within range of past levels, and still provide for substantial expansion and improvement.

This assumes, of course, the employment of appropriate controls and incentives at both the provincial and local levels – as well as a great deal of ingenuity – to bring about the changes in schooling proposed in this report on a cost-effective basis. Numerous proposals as to how this can be done have already been suggested earlier in this report. Two further instruments merit brief mention at this point.

program accounting

Program accounting is an initial step toward cost-effectiveness and more sophisticated program budgeting. It should be instituted at once as the basis for allocating funds in early and further education.

Program accounting does not require as precise a statement of program objectives, and the way in which they will be achieved and evaluated, as does program budgeting. In fact, the main requirement is a measure of agreement about a functional classification of expenditures by which comparisons between programs may be made. Fortunately, as a result of the PPBES project, government already has the experience and expertise necessary to give leadership-service in this endeavor.

Table 14
Percent of Provincial Revenues Required for Operating Expenditures in Recurrent Education Using Various Tax Systems for Selected Years

System	1975	1980	1990	
			Low	High
1971 tax system	40.2	44.9	41.7	50.1
1971 tax system + 5% retail sales tax	35.5	39.6	36.6	44.0
1971 tax system + 1% increase in personal income tax rate every 5 years	39.7	43.9	39.8	47.8
1971 tax system with changes in personal income and sales tax	35.1	38.8	35.1	42.2

formula financing

Although increased use of program accounting for purposes of assessing revenue needs at all levels of schooling is foreseen and advocated, formula financing will continue to be an effective allocation and policy instrument, particularly in basic and higher education.

Flexible formulas have several advantages. Chief among these are their tendency to generate a reasonably equitable allocation between systems and institutions, and to minimize arbitrary and whimsical decision-making. They can help to ensure a significant measure of procedural autonomy at the local and institutional levels. They may also provide a measure of predictability for rational planning by individual systems and institutions. Finally, they can promote a continuing search for more efficient resource utilization.

On the other hand, certain disadvantages may develop if a rigid and simplistic approach is taken to formula financing. It may inhibit experimental and innovative approaches to schooling. It may tend to confirm program costs of the past and the maintenance of redundant programs, and thereby discourage needed changes. It may also encourage unwarranted uniformity among systems and institutions. These potential disadvantages of formula financing can be offset through regular reviews of the formula and its impact on educational services.

A new basic formula for higher education that will recognize both the similarities and differences within and among institutions is long overdue. The formula applied to universities is differentiated according to nature and level of program. Because the formula was imported with little adaptation from Ontario some years ago, the weights attached to the various programs are now highly questionable. Meanwhile the formula in use for colleges has been criticized for its failure to provide adequately for differences in program costs. And the institutes, and the former agricultural and vocational colleges, have not been funded on the basis of any clearly-defined formula. Coordinated effort, planned growth and valid cost comparisons await the development of an approach to formula financing in higher education analogous to the foundation program in basic education.

Effective planning in higher education, particularly in universities, has been hampered by a lack of knowledge about anticipated revenues at the time of planning. Funds are often not assured until part way through a current year's operation – long after many irrevocable commitments have been made. A partial solution to this problem is to base revenue allocations on projected rather than actual enrollments. Some safeguards against the undesirable consequences of over or under projection would be necessary. These could include the central admission service noted on page 136, earlier registration deadlines, institutional and program quotas, deliberate employment of some sessional or temporary staff, and mid-term enrollment reviews leading to immediate adjustments in revenue allocations by the Department of Advanced Education.

Three major changes seem warranted in the formula, or School Foundation Program Fund, in basic education. These alterations relate to certain factors that determine the amount of grant per classroom unit; the restrictions imposed on grants and supplementary requisitions; and the need to provide for equitable but differential treatment of school systems.

Immediate updating of the approach to calculating grants for the provision of a minimum level of schooling is necessary in a number of ways. The basis for provincial financial support to public education is the standard grant set for a classroom unit (CRU). This grant was established after considering provincial average expenditure for qualified instruction, operation and maintenance of a unit of 26 students. To accommodate differences in average expenditures, from elementary to junior high to senior high, the basic grant is adjusted by weighting factors of 1.0, 1.2 and 1.6 respectively. The provision for instructional expenditures in the CRU is based upon the employment of a teacher with three years of teacher education, who has had teaching experience equivalent to the provincial average. An upward revision of this teacher component is required to keep pace with the four year requirement for initial and continuing certification envisaged in this report. The mounting evidence that the quality of the learning transaction in the early years is crucial to subsequent school achievements, argues for a greater investment in elementary education in the years ahead. Thus, the current pupil weighting factors that affect grants should be adjusted to overcome the present bias in favor of secondary schools. This alteration is probably best accomplished by a general increase in the weight assigned to one accompanied by a corresponding decline or stabilization of the other, so that by the time program budgeting replaces formula financing the weights would be about the same. The special provisions in the School Foundation Program Fund for technical education should be extended to cover the performing or fine arts for the reasons given previously in this report. Similarly, the current provision for the handicapped ought to be upgraded and expanded to include the various kinds of exceptional children identified in Figure 13.

A mounting concern of school boards is the placing of arbitrary limits on the increase in grants and the use of supplementary requisitions. Salaries of all employees constitute more than 65 percent of operating expenditures. In the past, these expenditures have been increasing at rates greater than the prescribed growth limits of the grants. In fact, it has usually been necessary to reduce spending in other areas to provide for teacher salary increases. Continued arbitrary cost-price squeezes can only lead to a deterioration in the quality of future educational services. This problem could be overcome, or at least alleviated, by a different provision for supplementary requisitions of revenues, provided the plebiscite requirements were abolished – as they certainly should be.

The availability of revenues from supplementary requisitions is highly dependent on the property assessment per pupil which varies widely throughout the province. If the present system of supplementary requisitions were continued, then the recommendations aimed at providing equity in basic education would be disturbed because of wide disparities in property assessments and tax rates between school districts. For example, in 1969, equalized assessment per pupil by school district, division and county varied in the province from a high of $19,755 to a low of $1,765. To compensate for these inequities a provincial equalizing supplementary grant, which would permit additional provincial aid to flow predominantly to school districts, divisions or counties with low assessment per pupil, is essential. These funds could be distributed in an inverse proportion to the availability of local resources through a percentage equalizing grant. Such a grant would require the province to pay a share or percentage of a supplementary requisition. The provincial share would be greater for poor districts than rich ones.

If the province were to provide 60 percent of total supplementary requisitions, then Figure 18 shows what would happen to its contributions under an equalizing scheme when sample districts impose the same tax rate but have substantially different tax bases.

In the example used in Figure 18, all school districts require the same supplementary requisition of $20 but the equalized assessment per pupil varies with District E having the lowest. If the same tax rate were applied in each district, then the revenue would vary directly with the assessment per pupil, as is indicated in the local tax revenue column. However, the implementation of a percentage equalizing grant, as outlined above, would reduce the interdistrict differentials that would have to be imposed without such a grant. All districts intend to raise the same supplementary requisition of $20 per student, but District E, which has a low assessment per pupil, receives a more favorable grant than other districts. This illustrates the ability of the percentage equalizing grant to reduce interdistrict differentials in tax burdens in order to raise supplementary funds. The application of this type of grant could, if necessary, be limited to districts with relatively low assessments.

The use of equalized assessment as a measure of local fiscal ability is subject to some of the previously noted criticisms of the property tax. Therefore, if the introduction of program budgeting arising out of PPBES is expected to be unduly delayed, more accurate measures of local fiscal ability, educational needs, and cost differentials of similar programs must be developed. Weighting factors for this purpose ought to reflect the state of the local economy, price indexes of goods in the area, and general educational levels of the community.

The proposed modifications for financing basic education make use of both stimulation and compensation grants. But as often occurs in governmental financing, the approach may be complex but the purpose is simple–it is to provide equality of educational opportunity, but not necessarily fiscal equity, and to encourage and support local initiative in achieving excellence in schooling. Attaining this purpose does require greater provincial involvement in financing, but it need not result in a move away from procedural autonomy and control of priorities at the local level.

Figure 18
Example of Percentage Equalizing Grant Approach
With 60-40 Split Between Province and School District[1]

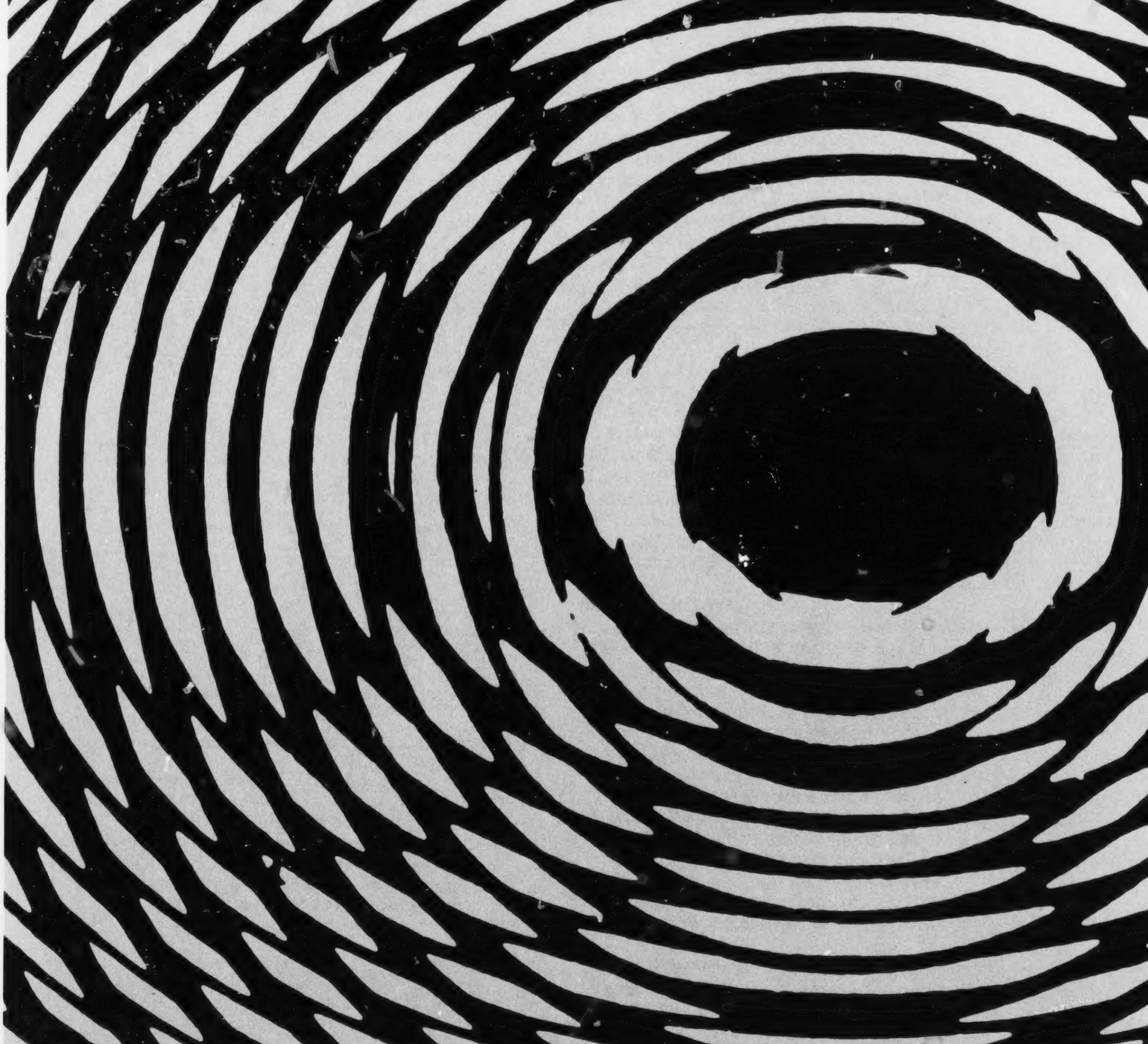
District	Equalized Assessment per Pupil	Supplementary Requisition per Pupil	Local Tax Revenue per Pupil	Provincial Aid	Local Tax Rate
	$	$	$	$	(mills)
A	18,000	20	18	2	1
B	10,000	20	10	10	1
C	6,000	20	6	14	1
D	4,000	20	4	16	1
E	2,000	20	2	18	1
Total	40,000	100	40	60	

[1] Provincial aid is distributed under the following formula:

$$A_i = (1 - x \cdot Y_{i/y}) E_i$$

where

A_i = equalizing grant to i^{th} district
x = arbitrary constant having value between o and 1
Y_i = equalized assessment per pupil in the $_i{}^{th}$ district
y = provincial average equalized assessment per pupil
E_i = supplementary requisition in i^{th} district



perspective

Money is a major source of energy for schooling. It provides the essential purchasing power for the acquisition of personnel, learning resources and facilities. But beware of that old cliché that "nothing is wrong with schooling that more money won't fix." It is a dangerous half-truth. It diverts us from a continuing examination of the ways that our resources are being used in comparison to the ways that they could be used. Both efficiency and quality in schooling are thereby denied.

Yet as efficient as schooling may become, we cannot dodge the fact that its demands on our resources will continue to rise. Hopefully, these cost increases will be more than matched by the growth in personal income and provincial revenue, and by our commitment to use recurrent education as one means of obtaining a better quality of life.

Expensive schooling can be poor, but good schooling is seldom cheap. And good schooling is what all Albertans need more of. With good schooling we will be able to stretch out our hands to claim the future. Without it we shall all be walking into the future backwards.

next steps

Where do we go from here?

The answer to this question depends . . .

It depends on people. In the final analysis all educational changes are initiated by people. Thus, each individual's personal commitment to an idea and to change is a critical factor. What does the individual really believe needs to be done? What is he actually prepared to do himself, or to let others do for him? Many of our current difficulties in schooling have arisen because of differences between what people say they believe, and what they actually believe, and how they act towards both. The future in education depends upon the personal integrity of people everywhere, and upon their authentic response.

It depends on leadership. A wide base of enlightened, unswerving leadership is required at all public levels–to plan and organize action, to arouse interest, to evoke cooperation. These men and women will not have an easy task since there are few things more difficult to explain, more perilous to conduct, or more doubtful to achieve than the introduction of something different. Current leadership styles may not get the job done. Non-directiveness can stir interest and encourage spontaneity, but it also can result in nothing concrete happening.

It depends on professional educators. They have been entrusted with most of the keys and all of the locks. Whether they are given more keys or fewer locks will depend on the degree of enlightened guidance that comes from their ranks. The type of guidance that is required will question the instinctive behavior of educators and challenge the folk wisdom of professionalization. The discovery of truth is important; emancipation from error is even more important.

The answer to the question of where do we go from here depends on a lot of people and things—but mostly people.

The immensity of the undertaking is no cause to shudder. Our country was not built by people who were fearful of disrupting special privileges or of righting inequities. The citizens of our province have shown on several occasions that they are prepared to embark on rapid, even fundamental change, given bold, imaginative planning and leadership. There is reason to shudder, however, when one considers the consequence of leaving things undone.

strategy

This report conveys a strong plea for optimism and action in planning for educational change. Optimism and action supply the basic energy of civilization. Neither waits on slowly-assembled facts. Each deals with prospects. Any other stance is merely a waste of critical time.

The Commission has assembled and synthesized as much relevant information as it could. It has tried to set forth, clearly and convincingly, some desirable goals and some means of achieving them. Nonetheless, because it focuses on an activity as complex and as pervasive as education, to some the report may appear incomplete, both in terms of data and principle. However, the Commission is convinced that this report constitutes a basis for moving ahead. Waiting for the ultimate, in data or in goal-agreement, is a sure way to bog down in planning for change. Reaching the ideal means doing the possible–a step, a jump, a leap at a time–and doing it at the first opportunity.

This is not a call for an uncritical and hurried approach to planning and action. But it is a call for Albertans to proceed now on the basis of consensus, consent and compromise, so that tomorrow's schooling will be different from what it is today.

For any change to be effective, the people involved–though they may not have all the data or agree on all the principles–must reach at least some minimal level of consent to the change. While it is not necessary to have their active enthusiasm, it is necessary to avoid their active opposition. Even "good" educational change–however defined–carried out against the will of those involved is not likely to bring about desirable or lasting results.

There must be some consent, then, in trying to move toward the ideal by way of the possible. And this consent always requires a degree of consensus. Consensus implies agreement in feeling–not whole hearted, factual agreement, but enough to serve as a basis for moving ahead. Consensus serves as a kind of bridge between opposed positions. It may perhaps be a temporary structure, neither sturdy nor durable, but one that does permit passage. Across such a bridge, persons, ideas and actions can pass back and forth between disparate positions. It is a limited agreement for limited purposes. A major responsibility of the provincial government and various governing boards is to devise procedures for attaining such consensus before communications break down. Patience and the suspension of disbelief are two attributes that allow us to discuss rationally our uncertain conclusions about the future.

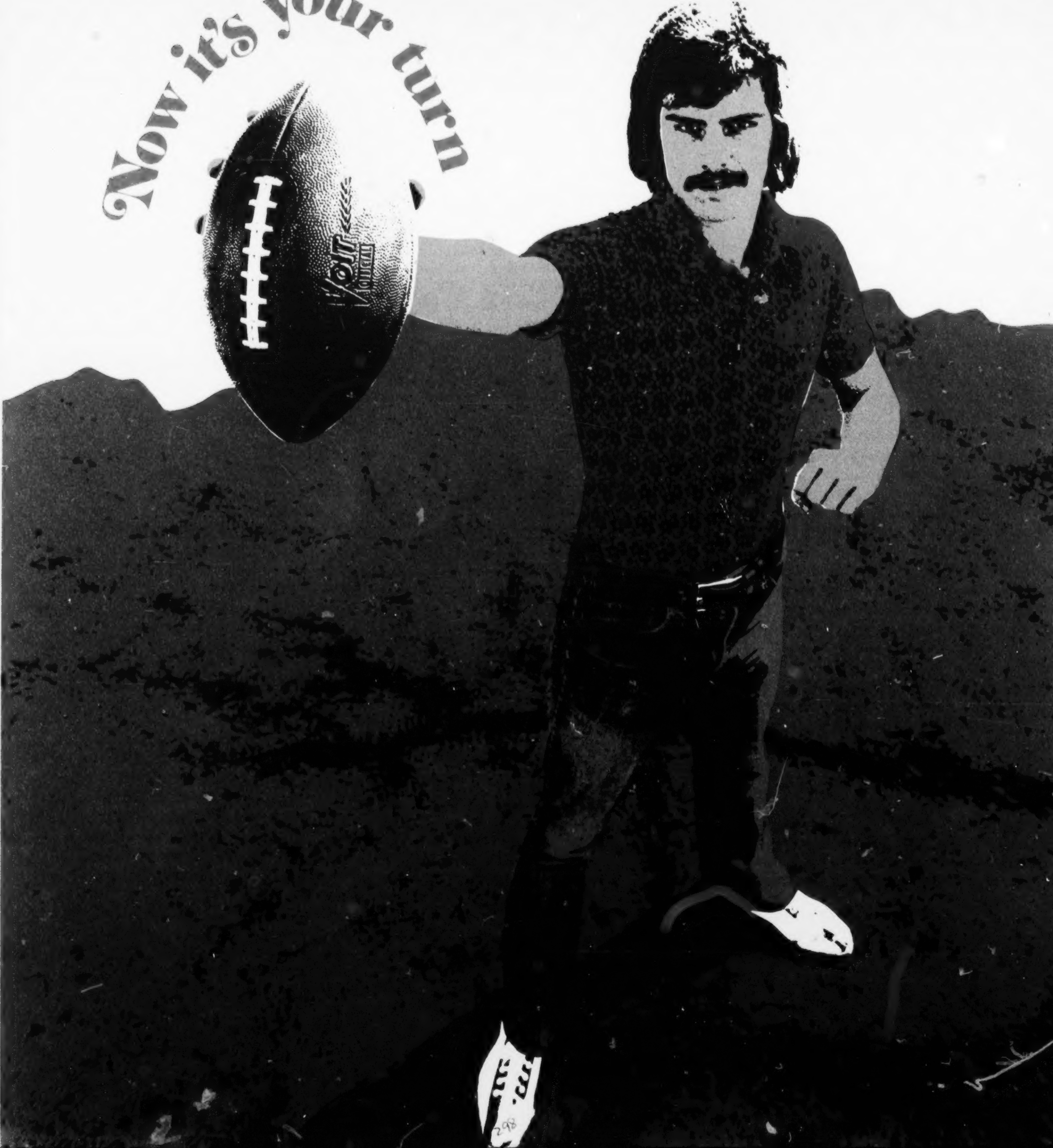
Obviously, gaining even minimal consent or limited consensus involves some degree of compromise. In some quarters compromise is a rather unpopular–even a faintly immoral–word. This is unfortunate. In long-range planning, as in day-to-day operation, compromise can be employed to achieve improvements and change. Certainly compromise that is timid, self-serving or backward-looking deserves to be scorned. But compromise that is imaginative, unselfish and future-oriented is one of the most effective ways to achieve our long-term aspirations. And compromise can be modified after experience, which is more than can be said for intransigence.

priorities

The terms of reference for the Commission indicate that it "shall establish bases for the priority judgments of government with respect to the course of public education in Alberta for the next decade." To the extent that it is possible and appropriate, the Commission has attempted to do this in preceding sections. It is imperative that these perceptions of what many Albertans deem to be important goals for the future, as well as the Commission's interpretations of desirable solutions to the major problems which Albertans have identified, be deliberately tested in the public realm. The approval, rejection or modification of these perceptions and interpretations by the people of the province is the ultimate criterion for priority judgments by the provincial government, by other governing authorities, and by professional educators.

This criterion, combined with the futures-forecasts in Section I, strongly suggests that the future of schooling in Alberta depends on the making of new kinds of political–indeed moral and philosophical–choices. Scarcity provides, as it were, its own directives. It is not easy to argue against goals like more food, better housing or health care, or job security. But the relative affluence that has been attained in this province poses new issues. Scarcity still exists for many; goals still conflict; resources cannot be devoted to all things equally; human energy and political capabilities are limited. When choices have to be made, they involve positive acts of preference on one side and of self-denial on the other. The latter, while mutually satisfying, can be privately painful.

As noted earlier, a society that tolerates or encourages differing expectations and plural power must seek unity


Now it's your turn
VOIT
Official
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through diversity. This means recognizing and cultivating differences, while simultaneously enlisting people's allegiance to certain standards of behavior and social tolerance. Only participation and persuasion, not legislation, can fashion consensus from these varied elements. And only when enough consensus is gained can choices be made, and priorities established.

Some of these choices or priorities can be made on more or less empirical bases–subject, at least, to rational analysis–by employing the emerging technology of planning described in Section V of this report. But while planning technologies may be able to speak wisely about the means of schooling, they are not very believable when it comes to ends. There is no straight path from a cold fact to a warm value. If we rely on planning technology alone, questions of purpose will remain unanswered; priorities and politics, on the other hand, depend upon purpose.

Thus, the greater part of priority-setting rests upon purposes and goals. Ultimately, goal-directed priorities–like all value judgments–are established on a subjective basis: personal choice. These subjective, personal judgments are usually collectively expressed. That is why we have political parties. Such choices–as with all value judgments–are susceptible to a very wide margin of personal preference, and even personal error. That is why we have elections. The people must choose the goals of education, and the priority of education in relation to other sectors of social life. That is why we have this report.

commission preferences

All of the problems and proposals emphasized in previous sections of this report are deemed to be important. They are also interlocked with one another. Hence, it is difficult to identify the key items–those that should be given top priority. Yet such preferential decisions are as essential as they are inevitable. Each reader will make them–overtly or covertly–in relation to his own values, his own perception of needs, his own knowledge of resource availability. And each reader ought to make and express these kinds of choices. It is appropriate in this context then to ask: what are the preferences of the Commission on Educational Planning?

The answer to this question is influenced by two factors–the need for equity and the need for momentum.

The principle of equity in schooling sets a direction in which provincial policies must try to move. Admittedly, it is difficult to achieve. But the growing demand for personalized learning leading to self-actualization at all levels of recurrent education leaves no practical alternative. Similarly, the requirements of an increasingly sophisticated economy and a complex social life justify any effort to develop a much larger number of highly educated people coming from all age groups and all sectors of the population.

Past attempts to provide greater equity in educational opportunity have generally been of three kinds: changes in the nature and availability of schooling (i.e., vocational high schools, manpower programs, colleges); changes in the organization of schooling towards greater breadth and horizontal movement (i.e., non-graded programs, composite high schools); changes in the process of schooling that make it possible for larger numbers than before to succeed (i.e., headstart programs, mastery learning). These changes have been geared primarily to the young. Consequently, they have contributed to inequality among generations.

This inequality is not likely to be a temporary phenomenon. It will persist in the immediate future for at least two reasons. One is the need to continuously increase the learning stock of the next generation so they will be able to cope with the increasing volume of knowledge on which progress depends. The second is that the older generation's learning stock soon becomes outdated.

The pursuit of equity in schooling is new to Alberta, as it is in all other societies. Institutions for schooling have acted as selective agencies that tend to pass on the advantages enjoyed by the affluent to their children alone. For this reason, the pursuit of equity will be strongly resisted both by those who have the edge and want to keep it, and by those who haven't got it but want to get it. The former will resist on principle, and the latter on practice, for at heart they, too, want the advantages bestowed by differentiated schooling in a second-phase industrial society.

A second major factor influencing the Commission's preferences–what we have called the need for momentum–relates to the significance of an initiating structure in planning. Practical experience in developing countries like India and many African states, and developed countries such as France and the Scandinavian nations, shows that growth in the social, economic or educational spheres is not linear. That is, it does not happen in a logical and successive way that can be permanently planned over a future of more than a few years. People, things and systems, once set in train, have a dynamic of their own.

This practical experience in planning is now supported by the latest concepts in systems theory, cybernetics and ecology. Man and his environment participate in molding each other. A sort of synergy takes over; synergy being the force that integrates separate elements into organic, dynamic wholes, more powerful than the sum of their individual parts.

It is, therefore, essential that the steps that are taken now, and the conditions that are set now, be in the right direction. When we create mechanisms we create momentum; momentum is more easily followed than opposed. If we can start it in the right direction, the power of change can be more easily harnessed, reviewed and developed.

* * *

- **provision of universal opportunity and selective experience in early education;**
- **abolition of Grade XII departmental examinations;**
- **inauguration of the Alberta Academy, Early Ed and the supporting ACCESS network;**
- **extension of opportunities in further education;**
- **modification in certification requirements for teachers in early and basic education;**
- **reorganization of the Department of Education and Department of Advanced Education;**
- **revision of funding arrangements for all levels of recurrent education, including provisions for life experience and student assistance.**
- **modification of the school year and of procedures for the transfer of credits;**
- **reduction in the length of all general and most professional first-degree programs in universities;**
- **preparation of an Integrated Provincial Development Plan.**

* * *

Given the twin needs of equity and momentum, the Commission urges that the "top-ten" proposals (opposite) be given immediate and concurrent attention by the provincial government:

These priority actions are only a beginning, not an end. Undoubtedly, the people of the province will choose many other changes requiring provincial planning and co-ordination. At the same time, the provincial government will need to identify other programs that are interdependent upon these priorities, and upon other choices they may wish to implement. Only then can a new vision for education in Alberta be realized.

When we plan even the slightest educational change we are intervening in a complex social system, the elements of which are dynamically interrelated. Consequently, many other actions may be necessary to implement one specific change. Many of the other actions needed at the local, institutional and classroom levels are implicit in earlier sections of this report that discuss such matters as school councils, modes of program operation, regional learning centres, life experiences, differentiated staffing, drug education and learning resource units. However, even these actions will require other interrelated changes. Therefore, it is nearly impossible, and probably inappropriate, to single out certain individuals, groups, institutions, agencies or organizations as sharing the responsibility for implementing any specific change. Indeed, it would probably require another report. Moreover, to do so would be inconsistent with the spirit of this report, and of the future, both of which call for inner-direction rather than outer-direction. Commitment is caught, not taught.

a forward look

This report looks forward to a new kind of citizenship right–recurrent education. It grants a claim on schooling to each individual, according to his own life-style and his preferences for patterns of work and leisure. It is intended to provide each person with the means to participate in the shaping and continuous reshaping of his environment and of society.

Major arguments supporting the case for an integrated system of recurrent education based on lifelong learning are found earlier in the report. Briefly in review these include: helping each person to find greater self-fulfillment through the layering of formal studies, gainful employment and leisure activities; enabling the individual to cope with the rapid rate of change and the increasing complexity of society; allowing a more rapid and precise adaptation of schooling to the shifting demands of the labor market; permitting more efficient use of resources through better motivation of learners; facilitating performance of the career function by reducing the distinctions between humanistic and technological, and theoretical and practical learning; and giving greater freedom of choice to the individual between work and study.

Eventually, recurrent education is a strategy not only for educational change but for social change as well. It is aimed at remodeling the interaction among schooling, work and leisure. It seeks to dramatically alter the relationship between the acquisition of human knowledge and its application. Because of this relevancy to the broader objectives of society, the development of policy for recurrent education must occur in a much wider social-political-geographical framework than that within which decisions on educational policy have been taken in the past.

The transformation of the present system of schooling into one of recurrent education is a vast and ambitious undertaking. It goes well beyond anything ever attempted in Alberta, Canada, and most other countries. It requires a total rethinking of the educational system and the learning transaction in all its aspects: goals, structure, process, planning, resources.

Such a transformation in education and in society will not come overnight. It will require long and careful cultivation as a common denominator for decisions and reforms in the decades ahead. The launching pad for this venture could be the report of the Commission on Educational Planning.

Recurrent education will be much affected by the direction society chooses. Educators have an opportunity to affect this choice, at least in part. Just as the beliefs and values of a society determine the kind of educational system it chooses to have, so does its system of schooling affect what beliefs and values are either perpetuated or changed. The crucial issue thus becomes: what values shall be fostered?

The Commission's position on this matter should by now be readily apparent. It favors the humanist values speculatively identified in Figure 2 on page 32. And it advocates the person-centred society. But it also recognizes that controls are necessary and it suggests that one of the controls most suitable to a person-centred society is the conscious, planned, channeling of growing individuals through diverse, even contradictory social experiences. The three modes of instruction mentioned in Section IV are an example of such conscious channeling. The Commission believes that a greater degree of tolerant, rational human behavior will result from this channeling and that only through such improvements can the harmony of a democratic society be maintained in the years ahead.

Ludwig von Bertalanffy, a distinguished University of Alberta professor through the '60's and a biologist of world rank, was the chief developer of what is now known as the general systems theory. His theory, which has its roots in natural law, has come to be recognized as applicable to both nature and society. In simplest form this theory asserts that all healthy systems share the following characteristics: they are open systems in dynamic interaction; they encourage feedback; they support a high variety of forms – or diversity rather than uniformity; they are complex, not simple; they minimize redundancy; they tend towards decentralization and heterogeneity; they maintain a certain disequilibrium; they are stable as a result of these characteristics.

The Commission supports this view as a model for a healthy educational system, and a healthy society.

But it is the position of the people of Alberta that really counts. Their degree of enthusiasm for what this report has attempted to do will be a good measure of how far and how fast we can go. Enthusiasm is generally a virtue; apathy never is.

If we believe that trend is not destiny, there is still time for us to have a choice of futures and a future of choices.

And the future is where we shall live our lives.

appendices

appendix a:
the commission on educational planning

The Commission on Educational Planning was established by Order in Council 1126/69 in June 1969 under the Public Inquiries Act. It did not begin work, however, until October of that year.

terms of reference

The very broad mandate of the Commission (CEP) was made clear by the following terms of reference:

> The Commission shall enquire into current social and economic trends within the Province to determine the nature of Alberta society during the next two decades.
>
> The Commission shall examine the needs of individuals within that society, having regard to the changes that may occur.
>
> The Commission shall study the total educational organization inclusive of elementary and secondary schools, colleges, technical institutes, universities and adult educational programs to decide the necessary adaptations of these institutions to the trends and needs hereinbefore described.
>
> The Commission shall establish bases for the priority judgments of Government with respect to the course of public education in Alberta for the next decade.
>
> The Commission shall give such consideration to the financing of the total educational organization as is deemed essential to the establishment of priorities.
>
> The Commission shall enquire into and recommend on the appropriate permanent structures and processes for the administration and coordination of the total educational organization and for long-range educational planning.
>
> The Commission shall either undertake directly or request from the Human Resources Research Council the completion of studies relevant to achievement of its (the Commission's) purposes.
>
> The Commission shall enlist the aid of government officials, the teaching and administrative staff of elementary, secondary and post-secondary institutions, local school governments and citizens at large in undertaking this enquiry and shall involve, insofar as possible, Alberta citizens in the processes of the enquiry.
>
> The Commission shall establish an office and engage suitably qualified individuals and organizations to assist in the execution of the work.

activities

Three interrelated types of activities were carried out concurrently by CEP: research studies, public involvement programs and fusion or correlative projects.

Developed, managed by and cost-shared with the Human Resources Research Council, the Commission's research program had four components. One was a group of nine evaluative studies that dealt with the theory and practice of planning. A second, consisted of 11 position papers prepared by scholar specialists on various aspects of education like aims, curriculum, teaching and learning, finance, facilities, administration and personnel. A third component of the research program was designed to yield images of the future. Four major reports were produced outlining a variety of social, economic, demographic and educational forecasts. The final component of the research program consisted of a number of studies on specific topics such as the Open University in Britain, the future problems of Alberta school principals, and the characteristics of participants in higher education.

A number of public involvement activities were undertaken. Submissions were received from 330 individuals and groups. Thirty six public hearings involving more than 5,000 persons were held in 20 different locations throughout the province, including rural and urban centres, schools, colleges, and universities, Indian reservations, and a penal institution. Eleven one-day conferences for consideration of each of the position papers were held in Grande Prairie, Edmonton, Red Deer and Calgary, attracting over 1,500 persons. About 300 Albertans participated in a Congress on the Future in Edmonton designed to stimulate thinking about the implications of selected futures-forecasts and their effects upon public policy. Three seminars–one in Calgary and two in Edmonton–to examine the interim proposals from our three task forces were attended by over 500 citizens. Almost 1,000 persons were also involved in public meetings in Medicine Hat, Olds and Lacombe, devoted to further discussion of the proposals from these three task forces.

In addition to the foregoing activities, the Commission Board and the three task forces, as well as the commissioner, were involved in countless meetings with organizations and groups throughout Alberta. And, beginning almost with the inception of CEP, there was a large volume of correspondence, conversation, and consultation with students and parents, elected officials and community workers, trustees and taxpayers, teachers and administrators, business people, and media personnel.

The third type of concurrent activity undertaken by the Commission involves what might be termed fusion or correlative project. The best known of these was the work undertaken by three task forces on N-12, post secondary and lifelong education. Each task force was charged with the responsibility of ensuring consideration in depth of a level or form of schooling as a unit or sub-system; examining and evaluating alternative futures for it; and proposing guidelines for its development in the next decade and beyond. In carrying out their work, members of the task forces read widely, including a substantial examination of the submissions made to the Commission; attended all of the public and semi-public activities of the Commission; participated in other significant conferences in Alberta, elsewhere in Canada, the United States, and Europe; studied reports of research; visited educational institutions in Alberta and listened to students and staff; consulted with laymen and professional educators, and met together frequently for intensive discussion over a period of about 14 months.

In the spring of 1971 each task force produced a set of interim proposals. For the next few months these proposals were examined and debated by others in a variety of ways, including written appraisals by selected persons in Alberta, and from other provinces, the United States, UNESCO and OECD. After considering these various reactions, the task forces then reported on changes in their proposals to the commissioner and the Commission Board.

From CEP's inception onward the Commission Board was an important fusion or correlative mechanism. Members of the board were involved in defining policies and procedures, coordinating activities, analyzing information and proposals, and they served as a valuable source of information, insight and criticism during the development of the Commission report.

The total cost of the Commission's work was approximately $445,000. This amount was expended as follows: public involvement activities, including hearings, seminars and conferences $65,000; research projects and publications $145,000; deliberations of task forces and Commission Board $80,000; collection and synthesis of data, report preparation and general operating expenses $155,000.

personnel

A number of persons were directly associated with CEP. They served for varying periods of time—many without pay and most on a part-time basis.

commission board members

Al Anderson
Lorne Downey
Leonard Haney
Bernie Keeler
Henry Kolesar
Michael O'Byrne
Sam Smith
Allan Stein

task force members

n-12 education

Mary Green
Leonard Haney
Myer Horowitz
Bernie Keeler
Stan Maertz
Derek Morris
Larry Mutual
Lee Phipps
Orest Sherban
Joyce Thain
Gene Torgunrud

post-secondary education

Ray Fast
Don Harper
Fred Jorgenson
Marino Kristjanson
Frank McMahon
David Oke
Sam Smith
Mary Spencer
Allan Stein
Chick Thorssen

lifelong education

Allan Des Champs
Larry Ferguson
Walter Kaasa
Henry Kolesar
Adam Little
Gordon McIntosh
Jack Mitchell
Alvin Myhre
Michael O'Byrne
Hayden Roberts
Bob Smilanich
Fred Terentiuk

research contributors and consultants

Bob Anderson
Peter Atherton
Harold Baker
Claude Beauregard (Quebec)
John Bergen
Betty Bishop
John Blaney (British Columbia)
Romeo Bouchard (Quebec)
Patricia Bourgette
Chet Bumbarger
Ladislav Cerych (OECD)
Nick Chamchuk
Stan Clarke
Stan Cowley
Don Daloise
Carl Daneliuk
Jack Diamond (Ontario)
Lorne Downey
Bill Duke
Harold Dyck
Mike Edwards
George Emery
Janet Emig
Glen Eyford
Milton Fenske
Dave Friesen
John Fritz
Norman Goble (Ontario)
John Goodlad (USA)
Harold Gruber
Les Gue
Alex Guy
Eric Hanson
Gerald Hawley
Ted Holdaway
Jim Hrabi
John Hudson
Ernie Ingram
Denis Kallen (OECD)
Roby Kidd (Ontario)
Lylian Klimek
Paul Lengrand (UNESCO)
Tina Lomas
Jack London (USA)
John MacDonald (Ontario)
Al MacKay
Archie MacKinnon (Ontario)
Ray Maddocks
Tom Maguire
Jack McFetridge
Erwin Miklos
Nancy Miller
Ralph Miller
Gordon Mowat
John Myroon
Robert Overing (British Columbia)
Tony Riffel
Don Richards
Donald Seastone
William Shannon (USA)
Larry Shorter
Brian Sharples
Christine Smith
Sam Smith
Bill Stewart
Fred Terentiuk
Alan Thomas (Ontario)
Walter Unruh
Al Watson
Armin Wilcer

research coordinator

Lorne Downey

support staff

Al Anderson
Barbara Anderson
Agnes Jackson
Joy Roberts
Allan Stein

appendix b:

submissions

individuals

- Mr. C. F. Annis, Drumheller
- Mrs. Geraldine Archibald, Edmonton
- Mr. Robert Atkinson, Medicine Hat
- Mr. H. D. Baecker, Calgary
- Mr. D. E. Berghofer, Edmonton
- Mrs. Carrie Berndtsson, Robsart, Saskatchewan
- Mrs. Cécile Bielech, St. Paul
  - Mrs. Lucie Garneau
  - Mr. Oliver Lafleur
  - Mrs. Jeannette Létourneau
  - Mrs. Marie Marchand
  - Mrs. Juliette Richard
- Miss Claire Blanchette, St. Paul
  - Miss Doris Cartier
  - Miss Julie Chapdelaine
  - Miss Charlotte Poulin
  - Miss Roberta Therien
  - Miss Antoinette Therrien
  - Miss Diane Turcotte
- Miss Hélène Blouin, St. Paul
  - Miss Lorraine Foisy
  - Miss Agatha Gratton
  - Miss Diane Jacques
  - Miss Solange Piquette
- Mr. and Mrs. Keith Boulter, Rosalind
- Dr. R. D. Bramwell, Calgary
- Mr. O. C. Bricker, Lethbridge
- Mr. W. M. Brown, Lethbridge
- Dr. and Mrs. H. Buchwald and
- Mrs. B. Harrison, Edmonton
- Mr. Arthur C. Bunney, Forestburg
- Mr. Mick Burrs, Edmonton
- Mr. C. S. Campbell, Red Deer
- Mrs. E. Carriere, Edmonton
- Miss Louise Cénéreux, St. Paul
  - Miss Yvonne de Moissac
  - Miss Suzanne Duchesneau
  - Miss Aline Noël
- Mrs. H. Cleland, Vermilion
- Mrs. Ferne E. Clement, Donalda
- Mr. Colman Cohan, Edmonton
- Mr. D. J. Collett, Grande Prairie
- Mr. Clarence Copithorne, Edmonton
- Mr. D. J. Cornish, Seven Persons
- Dr. Herbert T. Coutts, Edmonton
- Mr. Harold G. Coward, Blairmore
- Dr. W. J. Cranley, Lethbridge
- Mr. E. H. Davis, Calgary
- Mr. Allan Des Champs, Calgary
- Mr. Roy B. Ells, High Prairie
- Rev. Vincent E. Eriksson, Camrose
- Dr. and Mrs. A. D. Fisher, Edmonton
- Miss Carmen Fontaine, St. Paul
- Miss Yvette Mandin
- Miss Jo-Anne Michaud
- Miss Pat Paradis
- Mr. William F. Fowler, Camrose
- Mr. Réal Gamache and
- Mr. Michel Nault, St. Paul
- Mr. Bernard V. Gee, Edmonton
- Mr. Roy Gerlitz, Edmonton
- Mrs. H. E. Godbout, Fort Saskatchewan
- Miss Shirley Goshko, Edmonton
- Mr. John Gray, Blairmore
- Dr. G. Audrey Griffiths, Leduc
- Mr. Evan Grover, Big Valley
- Mr. C. R. Guest, Calgary
- Mr. Harald Gunderson, Calgary
- Mr. D. S. Hamilton, Edmonton
- Mr. and Mrs. C. A. Hancock, Marwayne
- Mr. G. W. Hannah, Worsley
- Mr. James Harrington, Leduc
- Mrs. Frances E. Harrison and
- Mrs. Bertha Fegan, Lousana
- Mr. Robert Hawkesworth, Edmonton
- Mr. Fred Hochachka, Edmonton
- Mr. John E. Holden, Calgary
- Mr. A. W. Holmes, Edmonton
- Mr. R. C. W. Hooper, Edmonton
- Miss Deena Hunter, Edmonton
- Mr. Michael W. Jackson, Edmonton
- Mrs. Edna L. Jensen, Hinton
- Mrs. Louise V. Johnston, Calgary
- Mr. Philip T. Jones, Calgary
- Mrs. Marline Kalinowsky, Edmonton
- Mr. Sigurd Kawerau, Lac La Biche
- Mrs. F. Kettenbach, Rockyford
- Mr. and Mrs. R. E. Keyes, Calgary
- Mrs. Jill P. Kotkas, Lethbridge
- Mrs. Laura C. Kristianson, Rolling Hills
- Mr. Howard L. Larson, Red Deer
- Mrs. Elizabeth Lefsrud, Viking
- Mr. Jean-Marc Lemire, Edmonton
- Miss Marion O. Loring, Edmonton
- Mrs. Anne Lucas, Edmonton
- Mrs. Tatyana Y. Lytviak, Edmonton
- Mr. T. H. Lytviak, Edmonton
- Mr. Ian C. MacDonald, Medicine Hat
- Mr. W. D. MacDonald, Calgary
- Dr. F. V. MacHardy, Edmonton
- Mr. I. V. Macklin, Grande Prairie
- Mr. Richard H. Martin, Barrhead
- Mr. Leo Maruszeczka, Bruce
- Mrs. Nick Matichuk, Bonnyville
- Mr. Ed. Matwichuk, Edmonton
- Dr. A. G. McCalla, Edmonton
- Mrs. Enid F. McCalla, Edmonton
- Mrs. Mattie L. McCullough, Clive
- Mrs. Florence McKie, Edmonton
- Mr. Peter M. Merrett, Drumheller
- Mr. D. J. Merritt, Morrin
- Mrs. Mary Morrison, Edmonton
- Mrs. Helen Muspratt, Blairmore
- Mr. John J. Nascimbene, Calgary
- Mr. Gerald D. Nelson, Grande Prairie
- Mr. Doug Nicholas, Camrose
- Mr. Joseph North, Warner
- Mrs. Margaret Parry, Calgary
- Dr. S. G. Peitchinis, Calgary
- Mr. S. W. Pettem, Drumheller
- Mrs. Marjorie A. Phibbs, St. Albert
- Mr. George T. Pinchbeck, Sedgewick
- Mr. Paul Guy Piquette, Lac La Biche
- E. Rae, Calgary
- Mr. Allen Ronaghan, Paradise Valley
- Mr. Guy O'Brien Sabey, Lethbridge
- Mr. Deloy M. Sallenback, Calgary
- Dr. Vladimir Salyzyn, Edmonton
- Mr. Scott D. Saville, Calgary
- Dr. William E. Segall, Stillwater, Oklaho
- Mrs. Patricia Shanahan, Edmonton
- Mr. Robert Shand, Medicine Hat
- Mr. Michael Shopik, Grande Prairie
- Mr. George E. Sisko, Penhold
- Mrs. M. Sletton, Camrose
- Mrs. Ellen Sorensen, Drumheller
- Mrs. A. Spatuk, Blairmore
- Mr. J. A. Spencer, Magrath
- Mr. Russ Stashko, Grande Prairie
- Mrs. J. P. Steil, Edmonton
- Mr. G. N. E. Strong, Calgary
- Mr. Dennis W. Studer, Medicine Hat
- Dr. Alan M. Thomas, Ottawa, Ontario
- Mrs. Iona K. Thorlacius, Lethbridge
- Dr. F. Ustina, Edmonton
- Mrs. Aileen Vincett, Galahad
- Dr. W. A. G. Voss, Edmonton
- Mrs. Gerda Warren, Elnora
- Mr. Lowell Williams, Calgary
- Mrs. Isabella Wilson, Sherwood Park
- Mr. Peter Wyatt, St. Paul
- Mr. W. G. Zielinski, High Prairie

organizations

Alberta Association for Children with Learning Disabilities
Alberta Association for the Mentally Retarded
Alberta Association of Registered Nurses
Alberta Association of Social Workers
Alberta Association of Students
Alberta Catholic School Trustees' Association
Alberta Certified Nursing Aide Association
Alberta Chamber of Commerce
Alberta Chiropractic Association
Alberta Colleges Commission
Alberta Council for the Hearing Handicapped
Alberta Department of Agriculture, Board of Agricultural Education
Alberta Department of Education, Division of Vocational Education
Alberta Department of Education, French Language Curriculum Development Committees
Alberta Department of Labour, Apprenticeship and Tradesmen's Qualification Branch
Alberta Emergency Measures Organization
Alberta Federation of Home and School Associations
Alberta Federation of Home and School Associations — Area Eleven Lethbridge
Alberta Human Resources Research Council
Alberta Human Rights Association
Alberta Jaycettes
Alberta Library Board
Alberta Mental Deficiency Nurses' Association
Alberta NewStart Inc.
Alberta Podiatry Association
Alberta School Trustees' Association
Alberta Teachers' Association
Alberta Teachers' Association—Correspondence School Branch Local #64
Alberta Teachers' Association — Drumheller Local #9
Alberta Teachers' Association — Early Childhood Education Council (University of Alberta Regional)
Alberta Teachers' Association — Edmonton Separate School Local #54
Alberta Teachers' Association — Fine Arts Council
Alberta Teachers' Association — Guidance Council
Alberta Teachers' Association — High Prairie Local #62
Alberta Teachers' Association — Lac La Biche Local #65
Alberta Teachers' Association — Medicine Hat Local #1
Alberta Teachers' Association — Neutral Hills Local #39
Alberta Teachers' Association — Pincher Creek Local #56
Alberta Teachers' Association — Ponoka Local #50
Alberta Teachers' Association — School Library Council
Alberta Teachers' Association — Social Studies Council
Alberta Teachers' Association — Vermilion Local #31
Alberta Teachers' Association — Wainwright Local #32
Alberta Woman's Institute
Alexandra Junior High School Students, Medicine Hat
Allied Arts Council of Lethbridge
Angus Ridge Woman's Institute
Anthroposophical Society in Canada — Edmonton Branch
Association Canadienne-français de l'Alberta
Association Canadienne-français de l'Alberta (Peace River Regional Committee)
Association of Private Schools and Colleges in Alberta
Association of Professional Engineers, Geologists and Geophysicists of Alberta — Calgary Education Committee
Association of Professional Engineers, Geologists and Geophysicists of Alberta — Committee on Engineering Education
Beaver River Settlement #7, Lac La Biche
Bonnyville School District #2665
Bowness High School — Social Studies 20 Students, Calgary
Boyle Citizens' Committee
Burgess School for Mentally Retarded Children, Camrose
Calgary Cerebral Palsy Association
Calgary Citizens for Better Schools
Calgary General Hospital School of Nursing
Calgary R. C. Separate School District #1
Calgary School District #19
Camrose and District Social Services
Camrose Lutheran College
Camrose School District #1315
Canadian Association for Health, Physical Education and Recreation — Edmonton Men's and Women's Branches
Canadian Committee on Early Childhood — Edmonton Branch
Canadian Educational Publishers' Group
Canadian National Institute for the Blind
Catholic Women's League — St. Paul
Citizens of Red Deer and District
City of Edmonton
City of Grande Prairie
Civil Service Association of Alberta
Civil Service Association of Alberta — Branch #38 (Northern Alberta Institute of Technology)
County of Camrose #22
County of Lethbridge #26
County of Stettler #6
Crescent Heights High School Students, Medicine Hat
Crowsnest Pass Band Association
Delta Kappa Gamma Society—Edmonton
Drumheller Association for Retarded Children
Drumheller Rotary Club
Drumheller Valley School Division #62
Edmonton and District Council of Churches
Edmonton Association for Children with Learning Disabilities
Edmonton Chamber of Commerce
Edmonton Public School Counsellors' Association
Edmonton School District #7
Edmonton Social Planning Council
Edmonton Society for Christian Education
Education Facilities Council of Alberta
Educational Youth Enterprises — Calgary
Elementary Schools Administrators' Association of Calgary
Elnora Home and School Association
Elnora School Board
Falher Consolidated School District #69
Family Life Education Council of Edmonton
Farm Women's Union of Alberta — High Prairie Local
Faust Action Council for Education
Forestburg School — Grade IX Students
Gingerbread House Co-operative Nursery School, Lethbridge
Grande Prairie Chamber of Commerce
Grande Prairie R.C. Separate School District #28
Grande Prairie School District #2357
W. E. Hay Composite High School Committee for Special Program, Stettler
High Prairie School Division #48
Historical Society of Alberta
Indian Association of Alberta
Kinsella, Viking, and Bruce Citizens' Committee

Knights of Columbus, St. Paul
Lac La Biche Chamber of Commerce
Lac La Biche School Division #51
Language and Learning Development Association of Edmonton
Language School of the German Canadian Club, Calgary
Lethbridge Community College
Lethbridge Natural History Society
Lethbridge R.C. Separate School District #9
Lethbridge School District #51
McKernan Home and School Association, Edmonton
Medicine Hat High School Students
Medicine Hat R.C. Separate School District #21
Medicine Hat School District #76
Mennonite Conference of Alberta
Metis Association of Alberta
Mouvement des Femmes Chretiennes, La Fond
Mouvement des Femmes Chretiennes, St. Paul
National Council of Jewish Women of Canada — Edmonton Section
National Council of Jewish Women of Canada — Lethbridge Section
National Union of Christian Schools — Alberta District
Newman Theological College, St. Albert
New Norway School Staff
Northern Alberta Institute of Technology
Okotoks High School Students
Parkdale Parent-Teachers' Association, Edmonton
Peace River Citizens' Committee
Peace River High School — English 20 Students
Peace River Regional Planning Commission Staff
Pincher Creek School Division #29
Plamondon Local School Board of Trustees
Plamondon School Students' Union
Principals' Association of the County of Red Deer #23
Private Commercial Colleges of Alberta
Professional Engineers' Wives Club, Edmonton
Provincial Museum and Archives of Alberta
Psychiatric Nurses' Association of Alberta
Red Deer Local Council of Women
Red Deer School District #104
Roman Catholic Parish Council, St. Paul
Saddle Lake Band #125, St. Paul
Social Planning Council of Calgary
Social Planning Council of Red Deer and District
Society for the Visually Impaired, Calgary
Southern Alberta Educational Television Association
Southern Alberta Institute of Technology
Southern Alberta Institute of Technology, Staff of the Math-Physics Department
Speech and Hearing Association of Alberta
Speech and Hearing Clinicians of the Edmonton Public School Board
Stettler Elementary School Staff
Stettler Junior High School Committee for Physical Education
Stettler Kindergarten Association
Stettler School District #1475
St. Paul and District Chamber of Commerce
St. Paul Regional High School District #1
St. Paul School District #2228
Strathcona (County) Association for Retarded Children
Dr. Swift Junior High School Students' Union, Lac La Biche
Town of Lac La Biche
Town of St. Paul
Ukrainian Language Association
Unifarm (Alberta Federation of Agriculture, Farmers' Union of Alberta, and Farm Women's Union of Alberta)
Unitarian Church of Edmonton
University of Alberta Alumni Association
University of Alberta--Association of Professional Librarians
University of Alberta-Board of Governors
University of Alberta-Department of Agricultural Economics and Rural Sociology
University of Alberta-Department of Elementary Education
University of Alberta-Department of Geography
University of Alberta-Division of Speech Pathology & Audiology
University of Alberta-Faculty of Education
University of Alberta-Faculty of Education Students
University of Alberta-General Faculties Council
University of Alberta-School of Library Science
University of Alberta Senate
University of Alberta-Sociology of Sport Seminar
University of Alberta Students' Union
University of Calgary
University of Calgary-Academic Policy Committee
University of Calgary-Faculty of Arts and Science
University of Calgary Faculty Association
University of Calgary-Senate Education Committee
University Women's Club of Calgary
Vermilion Committee for Junior College Development
Vermilion R.C. Separate School District #97, Wainwright R.C. Separate School District #31, and St. Martin's R.C. Separate School District #16.
Viscount Bennett High School Students' Council, Calgary
Voice of Alberta Native Women's Society
Wainwright and District Chamber of Commerce
Wainwright High School Students
Wainwright School Division #32
Wandering River Women's Institute
J. A. Williams High School Students' Union, Lac La Biche

appendix c:
selected references

section I:
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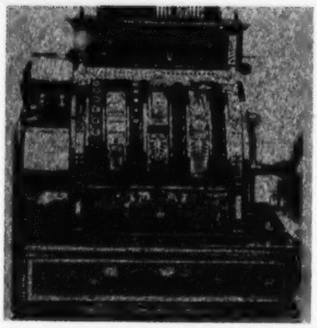

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Co-ordination • Jim Vincent
Special Consultant • Larry Shorter
Editorial Consultant • Mary Dawe
Typography, Assembly,
Color Posterization • B / W Type Service Ltd.
Printer • Bulletin-Commercial Printers Ltd.

Visual Co-ordination,
Design, Illustrations • Thurlbeck

photographers

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